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British Society for the History of Pharmacy

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The British Society for the History of Pharmacy was formed in 1967 under the aegis of the Pharmaceutical Society of Great Britain, having originated from its History of Pharmacy Committee.

BSHP seeks to act as a focus for the development of all areas of the history of Pharmacy, from the works of the ancient apothecary to today's ever changing role of the community, hospital, wholesale or industrial pharmacist.

Aims

Promotion of historical studies related to pharmacy.
Advancement of knowledge and propagation of understanding of the history of pharmacy.
Publication of the research work of pharmaceutical historians.
Preservation of pharmaceutical artefacts and historic pharmacies.
Support for the work of relevant museums and offering advice on establishment of other pharmaceutical exhibits and on the preservation of pharmacies.
Co-operation with related professions and local historians on medico-pharmaceutical topics of mutual interest.

Pharmaceutical Historian

The *Pharmaceutical Historian* has been published since 1967, at first intermittently, but on a regular quarterly basis from 1972.

An index for the years 1967-1995 was published in 1998. An index for 1996-2000 was published with the December 2000 issue. Issues generally comprise 16 pages and cover.

Papers, short communications and letters in English on any aspect of the history of pharmacy are welcome and should be sent to the address above or by email to *bshpeditor@associationhq.org.uk*

Any illustrations are converted to monochrome for printing. Further details of requirements can be found on the website *www.bshp.org* under Publications.

Membership

Membership costs £20.00 per annum and includes:

Four issues of the *Pharmaceutical Historian*.

Regular meetings, with guest speakers, usually in November, February and May. (Many meetings are College of Pharmacy Practice accredited for post-graduate education requirement.)

Visits to places of historic interest, museums, collections, botanical gardens, etc.

Annual Conference, usually in March/April.

Free use of Royal Pharmaceutical Society of Great Britain's library facilities for research.

Help in historical research and with the identification of artefacts.

Affiliation to the International Society for the History of Pharmacy (ISHP).

Affiliation to the British Society for the History of Medicine (BSHM).

Application forms are available from the Honorary Secretary at the address above or on *www.bshp.org*

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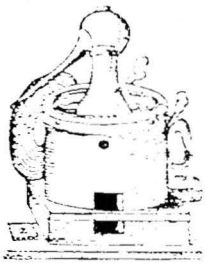

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Diary

Friday 31 March to Sunday 2 April 2006
BSHP Annual Spring Conference, Lansdown Grove Hotel, Bath. Application forms have been sent to members. More information from Secretary (see back cover).

Wednesday 19 April 2006
'Keep taking the Medicine: A Brief History of Pharmaceutical Disasters' by Dr Stuart Anderson, past president of BSHP. A joint meeting of the Hull and District branch of RPSGB with BSHP at the Beverley Arms Hotel, Beverley, E. Yorks. at 7.00 p.m.

Wednesday 10 May 2006
Foundation Lecture
'Arrow Poison to Anaesthesia' by Dr Ann Ferguson

21 June 2006
Joint Meeting with the Society of Apothecaries
2.30 pm at Museum RPSGB
Guided tour of the Museum followed by a light buffet. Cost £15.00

Future dates 2006
20 September; 15 November
September 29 - October 1, 2006
Second International Congress on the Cult and Iconography of St. Cosmas and Damian at Mercogliano (Avellino), Italy. Information from Patrizia Catellani, patcat@interview.it; fax 0039 0825788795.

John A Hunt PhD, FRPharmS

It is with regret that we report the death of John Hunt, president of BSHP 1997-1999, after several years of illness. He led the BSHP at the difficult time of separation from the aegis of the Royal Pharmaceutical Society and its office in the Scottish Department in Edinburgh.

After a successful career as an industrial pharmacist in the rapidly growing Glaxo company he retired and achieved a PhD at Portsmouth University with a thesis on the development of pharmacy in the British welfare state. In spite of illness, he gave a major keynote address on the evolution of pharmacy in Britain at the Edinburgh International Congress in 2005 and was author of a chapter on pharmacy in the modern world in the recently published *Making Medicines*.

Review

A History of Britain's Hospitals and the Background to the Medical, Nursing and Allied Professions
Dr G Barry Carruthers and Lesley A Carruthers, Eastbourne, Sussex: Book Guild Publishing, 2005, pp.415 (hardback price £18.50).

Hospitals in Britain have a long and interesting history. The earliest known is the Roman field hospital at Inchtuthill in Perthshire dating from the first century AD. But this and other Roman initiatives did not survive the withdrawal; during the early Anglo-Saxon period there was nothing. Not until 794 did the first Saxon hospitals appear, at St Albans, and at Flixton in Yorkshire. King Athelstan later founded St Peter's Hospital in York in 937.

With the conversion of Britain to Christianity, the Church began to care for the sick and needy. Between 794 and 1547 nearly eight hundred hospitals were established, in addition to the infirmaries attached to the monasteries. However, these were more ecclesiastical than medical institutions; they were as much for the refreshment of the soul as for the care of the body.

Much has now been written about the history of hospitals. However, much of this has been the history of individual hospitals, often written on the occasion

Continued on page 18

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New Frontiers of Therapy between the 19th and 20th Centuries in the Farmacia Mazzolini: Radioactivity, Electricity, Vaccination, Anaesthesia

Patrizia Catellani and Renzo Console

Introduction

An extraordinary historical pharmacy of the 19th century – the Farmacia Mazzolini – has been skilfully restored and recently reopened to the public as a museum at Fabriano (Italy) by its current owner, Vito Giuseppucci. It provides an interesting visual insight in the development of modern pharmacy through beautiful wood carvings placed on its ceiling. They show the most important contributors to this science: ingenious people who worked in many fields.

This pharmacy in its present form was conceived by its owner Ermogaste Mazzolini and decorated by the sculptor Adolfo Ricci. As a result, we can now see carved portraits - or at least the names - of world leaders in electricity, X-rays, antibiotics, vaccination, toxicology, pharmacology, therapeutics, chemistry, natural science, physics. Among them we have Lavoisier, Davy, Avogadro, Cannizzaro, Berthollet, Orfila, August Wilhelm von Hofmann, Faraday, Franklin, Röntgen, Cantani, Lenard, and even Hippocrates to stress the continuity of Western pharmaceutical tradition.

We can also see other carved portraits. They represent some less well known Italian researchers who made a major contribution to the development of pharmaceutical literature, to the creation of the first official Pharmacopoeia of the Kingdom of Italy (1892), to university teaching of pharmaceutics, and even to the unity of Italy as an independent country. Their names are Albertoni, Campani, Orosi, Plevani, Prota-Giurleo, Ratti, Vitali, Piutti, Piria and Purgotti. All of them are still well remembered in Italy.

The Mazzolini pharmacy also owns a rich collection of beautiful 19th-century jars, created to contain the most popular drugs described in the *Farmacopea Ufficiale d'Italia* and in the works of two of the pharmacologists shown on the ceiling – Orosi and Plevani.

The Mazzolini Giuseppucci Pharmacy at Fabriano

Fabriano is a rich town known world-wide for paper production. The town owes its wealth particularly to its special craft: the production of watermarks. It is still producing watermarked paper not only for Italy but for

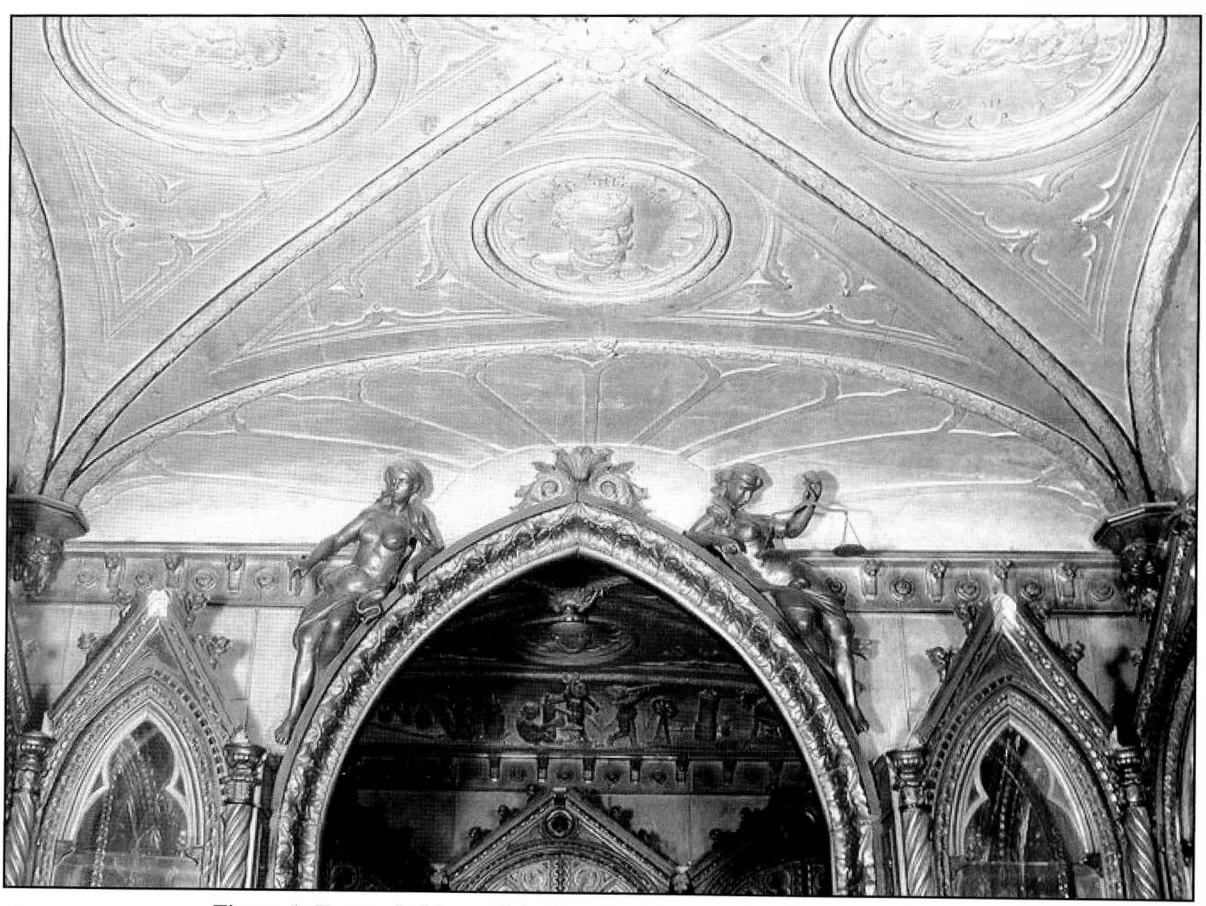

Figure 1. Farmacia Mazzolini. Detail of the wooden fixtures and ceiling.

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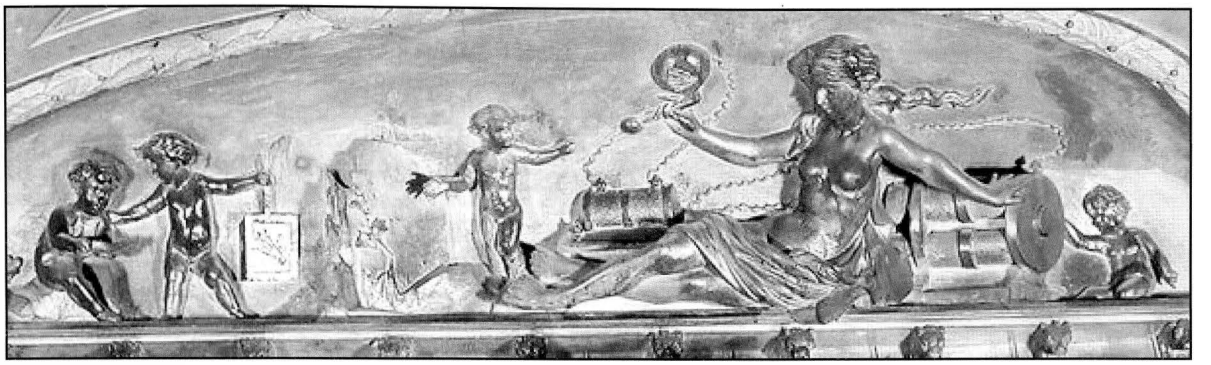

Figure 2. Visual representation of the process used by Röntgen to obtain the first X-Ray image.

other countries as well.

The pharmacy shows great opulence. The front door of the pharmacy is entirely carved. In the lower part we can see cherubs working in a chemical laboratory (see inside back cover). We can find this theme again inside the pharmacy. All the walls and the ceiling are completely covered with carved panels (Figure 1). The wood used is maple and ebony. The carved panels represent the new frontiers of therapy between the 19th and 20th centuries.

The present authors have identified all the persons portrayed on the fixtures of this pharmacy. They are:

Portraits carved on the ceiling
Hippocrates (460?-377? BC)
Pietro Albertoni (1849-1933)
Giovanni Campani (1820-1891)
Arnaldo Cantani (1837-1893)
August Wilhelm von Hofmann (1818-1892)
Matthieu-Joseph-Bonaventure Orfila (1787-1853)
Giuseppe Orosi (1816-1875)
Silvio Plevani (1853-1905)
Nestore Prota-Giurleo (1831-1896)
Francesco Ratti (1810-1889)
Dioscoride Vitali (1832-1917)

Names held by cherubs, without portraits
(Conte) Amedeo Avogadro (1776-1856)
(Conte) Claude-Louis Berthollet (1748-1822)
Stanislao Cannizzaro (1826-1910)
(Sir) Humphry Davy (1778-1829)
Michael Faraday (1791-1867)
Benjamin Franklin (1706-1790)
Antoine-Laurent de Lavoisier (1743-1794)
Arnaldo Piutti (1857-1928)
Wilhelm Konrad von Röntgen (1845-1923)

Names found separately, without portraits
Philipp Eduard Anton von Lenard (1862-1947)
Raffaele Piria (1814-1865)
Sebastiano Purgotti (1799-1879)

The Sponsor and the Author of the Fixtures

Ermogaste Mazzolini (1849-1899), the owner of the pharmacy, was most probably the person who commissioned the fixtures. He felt very close to Perugia although he had not been born there. This fact is shown by the recurring presence of the griffin, Perugia's symbol, in the fixtures.

We know that Mazzolini opened this pharmacy in 1892. It is divided into three areas: the sale room, the laboratory and the store room. This third room is no longer accessible. The maker of the fixtures and sculptures was Adolfo Ricci (1834-1904), who was actually from Perugia; but up to now we do not know exactly when all of it was commissioned, and how many years the works took to complete.

X Rays and Radioactivity: Röntgen, Lenard, Piutti

The allegorical representation of some scientific discoveries in the carved panels makes us think that the fixtures were still incomplete in 1897. For example, the discovery of X rays took place on 28 December 1896 and was divulged the following year; and Röntgen was not awarded the Nobel Prize until 1901. We can see from the subjects selected for the wooden panels that Mazzolini had understood very early the importance of scientific discoveries like electricity, X rays, electrophoresis, organic chemistry and the atomic theory for their possible pharmaceutical applications.

One of the pieces of equipment shown twice on the ceiling is possibly a direct current generator. The person commissioning the fixtures placed a cherub holding the name of Röntgen near the X rays allegorical scene (Figure 2). It is evident that he had understood the importance of X rays and their possible pharmaceutical applications, for example their use for sterilisation. We know that Röntgen did not seek a patent for his invention, and donated half of his prize to Würzburg University where he had been performing his experiments. A carving that had been removed was found during the restoration work. It showed the name of another physicist - Philipp von Lenard, Nobel Prize winner in 1905 - whose studies contributed to the development of X rays.

Arnaldo Piutti performed research and published studies on a large number of chemical subjects, like mineral radioactivity in the Vesuvius area and the problems created by chemical warfare.

Electrophoresis, Electricity, Electrotherapy, Anti-epilepsy: Faraday, Franklin, Ratti, Albertoni

The cherub holding Faraday's name (Figure 3) is placed close to the X rays panel mentioned earlier.

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Figure 3. Two sculptures with cherubs holding Faraday's ('Farady' [sic]) and Davy's names.

The source of electric power (shown in the panel, Figure 4) might be a direct current generator. Its development had been made possible by Faraday's discoveries of the properties of electromagnetic fields.

His experiments on electrolysis led to the development of electrophoresis, which is important for pharmaceutical purposes. The carving that characterises the sale counter shows the use of electrophoresis. That process was used to obtain very pure active substances. Judging from that carving, Mazzolini's knowledge of chemistry must therefore have been projected into the future. Also the value of electricity, of the electric battery and of the lightning rod, shown in an allegory, was very clear in Mazzolini's mind.

Next to it we find an inscription with Franklin's name. Franklin suggested that there were two types of electric charge, positive and negative, and indirectly opened the way to the therapeutic use of direct current (for muscle stimulation and electric shock). Alternating current only came much later.

Professor Francesco Ratti was a prominent physician, scientist and teacher. He contributed to scientific progress in Rome - gas lighting, explosives, glass, galvanoplastics. Although he opposed the political power of the Church, he was honoured by Pope Pius IX.

Pietro Albertoni was professor of experimental physiology and pharmacology at Bologna University. He advanced the study of electricity in living tissues and of its role in the nervous system.

Anaesthesia: Davy

One of the most important pharmacological achievements in the 19th century was the use of anaesthesia. It is symbolised in a carved panel on the ceiling. Sir Humphry Davy discovered the exhilarating effect of nitrous oxide and initiated the research that indirectly led to the development of surgical anaesthesia.

New Nomenclature: Lavoisier

Chemical activities are shown prominently on the ceiling of Farmacia Mazzolini, to signify the fundamental role played by chemistry (especially

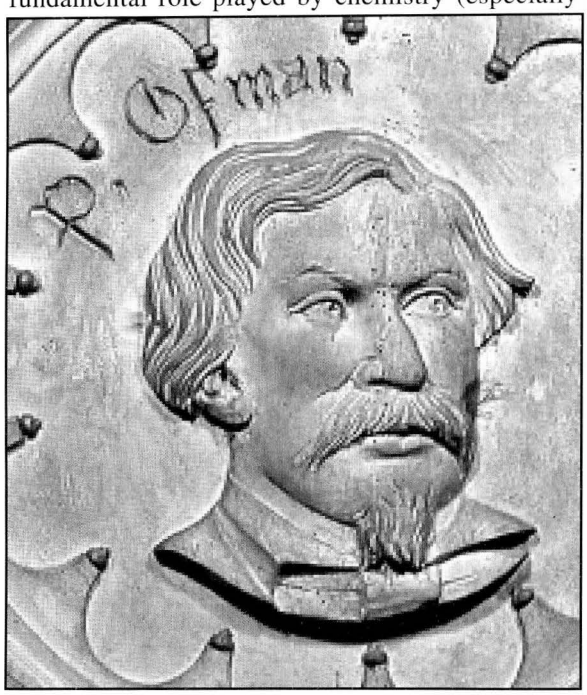

Figure 5. Carved portrait of August Wilhelm von Hofmann.

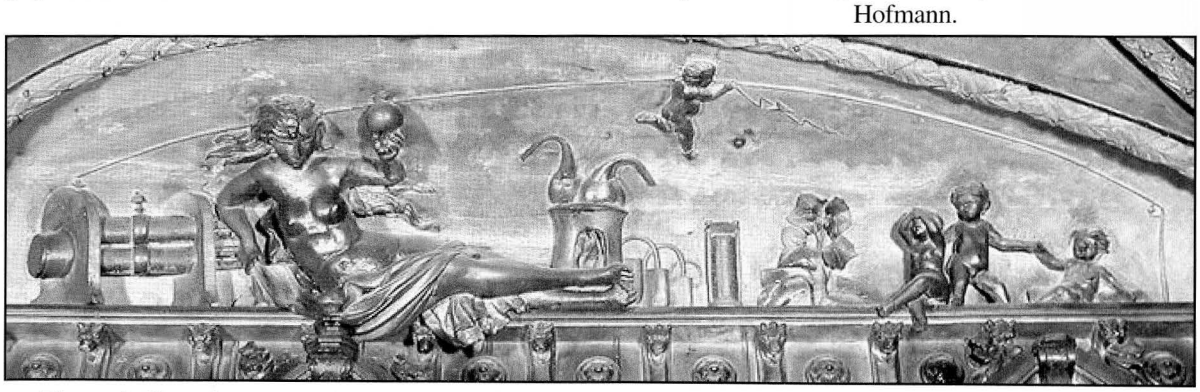

Figure 4. Carved panel on electricity, showing a direct current generator, the lightning rod and a battery.

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organic) in 19th century pharmacology. Many of the scientists honoured in the Farmacia Mazzolini were experts in chemistry and university teachers of this subject. One of Lavoisier's many and important achievements in the development of modern chemistry was the creation and introduction of a new chemical nomenclature.

The Concept of Chemical Valence: Hofmann

August Wilhelm von Hofmann was an assistant to Justus von Liebig and later professor of chemistry in Berlin. He investigated organic chemistry and produced aniline as the first example of an organic dye. He contributed to the adoption of the concept of chemical valence.

Atomic Chemistry: Avogadro, Cannizzaro, Purgotti

Another carved panel symbolises the concepts of the infinitely large (space, telescope) and the infinitely small (atom, microscope). Mazzolini was conscious of these concepts, as he included inscriptions of Avogadro's, Cannizzaro's and Purgotti's names.

Avogadro established the distinction between atoms and molecules and formulated his famous law about the number of molecules in any gas. However, Avogadro's theory was disputed and was fully accepted only after his death, thanks to Cannizzaro's contribution who explained its apparent contradictions.

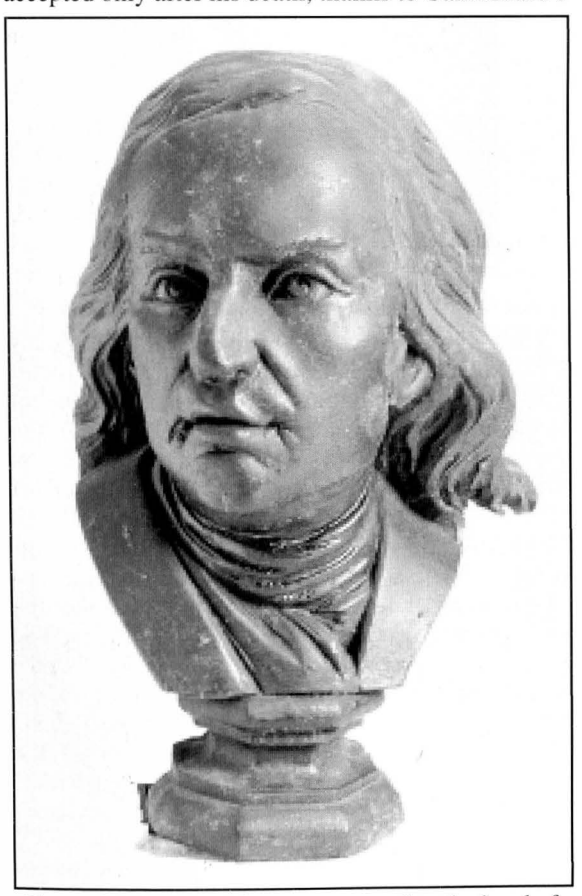

Figure 6. Wooden sculpture representing the head of Claude-Louis Berthollet, one of 15 such sculptures that can be seen in the Farmacia Mazzolini.

Sebastiano Purgotti was much praised for his teaching, his texts and his support of new ideas, especially the atomic theory which he taught at Perugia University.

Anti-inflammatory Disinfectants: Berthollet, Piria

Berthollet (Figure 6) discovered useful chemical properties of various substances, like the bleaching effect of hypochlorites and the use of carbon to purify water. His main contribution to the development of chemistry was his theory of affinity.

Raffaele Piria obtained an acid from salicin that he called salicylic acid, therefore contributing to the creation of the anti-inflammatory drug later called aspirin.

Pharmacopoeia of the Kingdom of Italy and Unification of Weights: Vitali and Orosi

Dioscoride Vitali was an important hospital pharmacist and a distinguished university teacher of chemistry. He was also one of the authors of the *Farmacopea Ufficiale del Regno d'Italia* (official pharmacopoeia of the Kingdom of Italy) that was first published in 1892.

Giuseppe Orosi was professor of medical and pharmaceutical chemistry at Pisa University. He published books on that subject and introduced the pharmaceutical use of the decimal metric system.

Scientific Journalism: Plevani and Prota-Giurleo

Silvio Plevani was a chemical pharmacologist and worked as chief pharmacist at the Fatebenefratelli Hospital in Milan. He played an important role as an enthusiastic founder, editor, author and promoter of pharmaceutical journals and other publications.

Nestore Prota-Giurleo was a chemistry and natural science professor, a pharmacist and experimenter, and the editor of *Il Farmacista Italiano ed il Medico Pratico* published in Naples. He produced his own variety of quinine and proposed the use of quinine sulfophenate.

Botany and Natural Science: Campani

Giovanni Campani was a professor of pharmacology, botany, natural science and chemistry. He had a prominent role in the development of Siena Botanical Garden. In 1861 he was involved in a famous dispute concerning the phenomenon of 'red rain' at Siena.

Antibiosis and Anti-diabetes: Cantani

Professor Arnaldo Cantani taught therapeutics at Milan and Naples. He advocated the progress of medical science and therapy in favour of naturalism and against metaphysics. He investigated diabetes and tuberculosis, and proved that an infectious pathogenic agent could replace another one. He called this process 'antibiosis'.

Toxicology: Orfila

Orfila was a French physician, toxicologist and chemist. Still young, he became famous when he published his *Traité des Poisons*. Today he is regarded

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as the founder of modern toxicology. With its advent, the safety of drugs was also established.

Catalogue of the Collection of Containers

The present authors have catalogued all the containers kept in the Pharmacy and have given an interpretation of their inscriptions:

90 Ginori porcelain jars (all with lids and decorated with gold lines, gold and red emblems and black inscriptions) dating from the end of the 19th century. Only ten of these have a stem (with body and lid in relief like the petals of a daisy), while the others, in four different sizes, are cylindrical.

230 glass bottles in different sizes, shapes and colours, decorated with red and gold lines and black inscriptions on white background.

40 boxes of specialities from the beginning of the 20th century.

Some laboratory instruments.

One of the containers is a blue glass bottle with the inscription 'MAGNESIA BISURATA TOKALON DI LONDRA'. It was designed to contain one of a number of medicines that were popular in those days. In this case the origin of the drug was London.

See also back covers.

This paper was presented at the 37th International Congress for the History of Pharmacy, Edinburgh, June 2005.

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Acknowledgements

All illustrations are courtesy of Vito Giuseppucci.

350 Years of Intravenous Injection

Axel Helmstädter

Frankfurt

One of the most important achievements in the history of anatomy and physiology, the discovery of the circulation of the blood, was reported in 1628. That year the British physician William Harvey (1578–1657) published his treatise *Exercitatio anatomica de motu cordis et sanguinis in animalibus*, where he summarised what already had become clear to him between 1613 and 1618.[1,2] The assumption of and experimental evidence for a continuous circulation of blood within the body revolutionised physiology and overcame considerations about blood renewal introduced by the Roman physician Galen in the second century BC. It had, however, many other consequences, among those the possibility of distributing medicinal substances throughout the living body by injecting them into peripheral veins. Indeed, attempts at intravenous drug therapy date back to the mid-seventeenth century and the breakthrough was made in 1656, exactly 350 years ago, although there seem to have been attempts at intravenous administration of different agents and even blood transfusion before that time.[1]

Most probably, ethanol was the first biologically active agent given intravenously; firstly not on a scientific background, but as a joke. The German physician Michael Ettmüller (1644–1683) reported on the amusement of huntsmen and their servants who blew wine into opened veins of dogs through a quill.[3] They enjoyed seeing the animal getting drunk but did not draw any conclusion in terms of the therapeutic application of drugs. Ettmüller dates these observations back to the year 1642, more than ten years before rationally planned experiments were done in Oxford. Those, however, consisted of the injection of alcohol into animals as well.

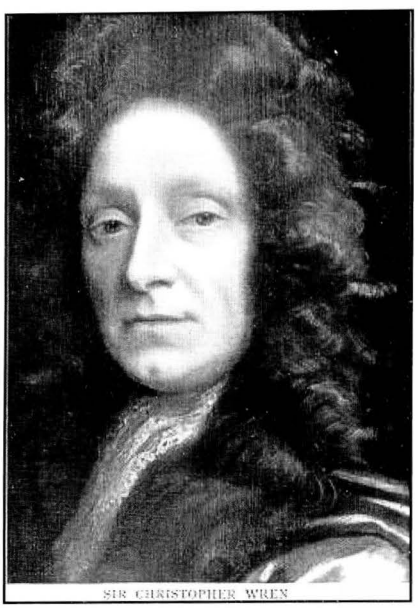

Figure 1. Portrait of Sir Christopher Wren

The first rational attempt at giving a physiologically active agent intravenously is attributed to a genius who is actually not famous for medicine but for architecture, Sir Christopher Wren (1632–1723). The later constructor of St Paul's Cathedral, London, which was built between 1675 and 1710, was member of a circle of outstanding scientists at Oxford University, including Robert Boyle (1627–1691). The young scientists regularly met to perform experimental studies, one of which most probably was the first intravenous injection on a rational basis. The experiment did not became widely known before the years 1664/1665 to 1668, when the Secretary of the Royal Society, Heinrich Oldenburg (1626–1678)[4], and Timothy Clark(e)[5] reported on them in the *Philosophical Transactions*. Clarke corrected the date of the animal experiments to 1656, while obviously by mistake Oldenburg had reported the year 1659.[6,7]

Two eyewitness accounts support the year 1656 as the exact date; one is a letter written by Wren himself to his former Oxford colleague, William Petty, most probably still written within 1656.[8] This letter shows

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that alcoholic beverages, emetics, opium and laxatives were among the first active agents administered intravenously to dogs.[8,9] After the treatment they showed all the reactions expected, which basically was the experimental proof that therapeutic agents injected into a vein will be distributed through the body organs. Wren described what he had observed in the following impressive wording:

> I have injected Wine and Ale in a living Dog into the Mass of Blood of a Veine, in good Quantities, till I have made him extremely drunk, but soon after he Pisseth it out; with 2 ounces of infusion of Crocus Metall: thus injected, the Dog immediately fell a Vomiting & so vomited till he died. It will be too long to tell you the Effects of Opium, Scammony and other things that I have tried this way.

Crocus metallorum, an antimony salt, was a powerful emetic which was observed here to work immediately after injection.

Wren seems to have anticipated the tremendous importance of his experiments further stating:

> I am now in further pursuit of the Experiment. which I take to be of great concernment, and what will give great light both to the Theory and Practice of Physic.[8,10]

A first attempt to inject the emetic Crocus metallorum into a human being, in particular a servant sentenced to death, failed because the delinquent fainted right at the beginning of the procedure.[7]

Whether Wren ever met Harvey during his time in Oxford has been discussed; this seems to be possible but remains without proof.[11] More likely, Wren adopted his knowledge about blood circulation from Charles Scarburgh (ca. 1615–1693?), his teacher and physician who was strongly influenced by Harvey. Thus, the Harvey biographer Geoffrey Keynes sees a 'mental continuity' from Harvey, to Scarburgh to Wren.[12]

In the mid 1660s the technique of intravenous injection became highly popular through the works of three German physicians, Johann Daniel Major (1634–1693), Johann Sigismund Elsholtz (1623–1688) and Michael Ettmüller (1644–1683) who tried intravenous injections independently of the British scientists.[7] It seems likely that Heinrich Oldenburg published his reports about Wren's experiments in the *Philosophical Transactions* at that time in order to secure the right of priority for Wren who had not published his findings.

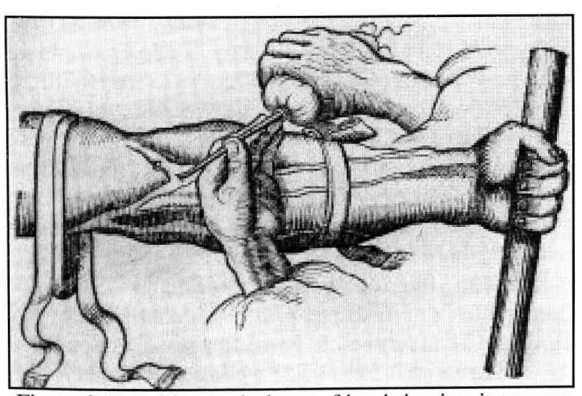

Figure 2: Primitive technique of i.v. injection into men (J. D. Major: *Chirurgia infusoria*, 1667)

Major published his *Prodromus Inventae a se Chirurgiae Infusoria* in 1664, shortly before he was appointed professor at the University of Kiel. He started with injections into dog veins as well in order to reduce blood viscosity. According to Buess[7] the technique of *Chirurgiae infusioria* remained theory until March 21, 1668, the day Major did the first injections himself using a syringe made of silver.

He strongly relied on theoretical considerations about the actual properties of blood, while Elsholtz proceeded more empirically and started to publish not before having some years of experience. In his publication *Clysmatica nova,*[13] edited 1665 in German and 1667 in Latin, he firstly reported on experiments dating back to 1661 comprising water injections into a drowned female in order find another proof for Harvey's circulation theory. He then started to inject wine, hypnotics, and emetics into dogs, thus repeating what had been done in Britain several years before.

Figure 3. Injection of drugs into a dog's vein (Elsholtz: *Clysmatica nova*, 1667)

Most probably, however, Elsholtz started in 1663 to treat human patients, actually a soldier suffering from a leg ulcer. This patient received one ounce of Aqua Plantaginis intravenously. He then fooled two other soldiers who believed they were to be bloodletted but actually received plant extract injections as well, which obviously were well tolerated.[7] Elsholtz who regarded the injections to be a new technique of giving clysters ('clysmatica nova') recommended the procedure mainly for the treatment of heart diseases and insomnia. This was

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certainly a consequence drawn from considerations about blood circulation through heart and brain. Somewhat different were the arguments given by Michael Ettmüller who mainly recommended the new method in cases where remedies must not be altered in the intestine and for patients having difficulties with swallowing or absorption.

Eventually, by the end of the 1660s the technique of intravenous injection was widely known, but in the following years it was used in physiological research rather than in therapy. Research topics included the question of the presence or absence of air in blood vessels and several toxicological problems which led to a wide range of experimentally injected substances including air, mercury, nicotiana oil, camphor, fat, sodium chloride, sugar, vegetable extracts, hydrochloric acid and olive oil.[7] The mostly fatal consequences of these experiments which, however, led to a deeper understanding of pathophysiology, did basically not improve therapy and more than a hundred years after the first i.v. injection it was stated that, although heavily promoted in the beginning, the procedure of 'chirurgia infusoria' with therapeutic intention had almost been abandoned.[9, 14] To a certain degree this changed when the i.v. injection of emetics to expel foreign bodies out of the oesophagus was successfully suggested by Köhler in 1776.[9] A tube made of glass and intended to blow drugs into the vein by mouth was recommended by the Austrian surgeon Michael Hager in 1831 but remained unsuccessful.[9]

The modern era of intravenous injection started almost 200 years after the first steps taken by the famous architect Christopher Wren, when Charles-Gabriel Pravaz (1791–1853) invented the hypodermic syringe shortly before his death. Improved knowledge about antisepsis in the second half of the 19th century eventually led to the first ampoules containing sterile solutions. This invention is attributed to the French pharmacist Stanislas Limousin (1831–1887) and his ampoules did exist in 1886; however sterile glass containers for drug solutions must have been produced before 1883.[15] The knowledge of antisepsis, suitable equipment for application and last but not least the availability of water-soluble low-dose drug substances, e.g. alkaloid salts, boosted intravenous drug therapy, which was basically invented exactly 350 years ago.

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References

1. Manchester HM. The beginnings of intravenous medication. *Annals of Medical History* 1917/18; 1: 177-97.
2. Eckart WU. *Geschichte der Medizin*. 3rd edn, Heidelberg, 1998.
3. Ettmüller M. *Dissertatio de Chirurgia infusori*. Leipzig, 1668.
4. [Oldenburg H.] *Philosophical Transactions* Dec 4, 1665.
5. Clarke T. *Philosophical Transactions* May 18, 1668
6. Fortescue-Brickdal JM. A contribution to the history of intravenous injection of drugs. *Guys Hospital Reports* 1904; 58: 15–80.
7. Buess H. Zur Frühgeschichte der intravenösen Injektion. *CIBA Zeitschrift* 1946; 9: 3594–3606.
8. Bergman NA. Early intravenous anesthesia: an eyewitness account. *Anesthesiology* 1990; 72: 185–186.
9. Feldmann H. Die Geschichte der Injektionen. *Laryngo-rhinootologie* 2000; 79: 139–146.
10. Bennett BA. A study of Parentalia, with two unpublished letters of Sir Christopher Wren. *Annals of Science* 1973; 30: 129–147.
11. Gibson WC. The bio-medical pursuits of Christopher Wren. *Medical History* 1970; 14: 331–341.
12. Keynes G. *The life of William Harvey*. Oxford, 1966.
13. Elsholtz JS. *Clysmatica nova, sive ratio, qua in venam sectam medicamenta immitti possint*. Berlin, 1667.
14. Heister L. *Chirurgie, in welcher alles, was zur Wundarzney gehöret [...] abgehandelt [...]*. Nürnberg, 1763
15. Schramm G. *Zur Geschichte der subkutanen Injektionen und Injektabilia in der zweiten Hälfte des 19. Jahrhunderts mit besonderer Berücksichtigung der Quecksilbertherapie*. Stuttgart: Deutsche Apothekerverlag, 1987.

Records

Major Accessions to Repositories in **2004** Relating to Pharmacy and Chemistry

The National Archives in its annual *Accessions to Repositories* exercise collects information from over two hundred record repositories throughout the British Isles about manuscript accessions received in the previous twelve months.

Readers should note that dates for records in this digest are given when known, but that these are covering dates which do not necessarily indicate the presence of records for all intervening years. Records have been included in the digest regardless of whether the deposit has yet been fully catalogued, and readers are advised to check with the relevant repository as to whether this, or any other factors, may affect access to the documents.

Berwick-upon-Tweed Record Office, Council Offices, Wallace Green, Berwick-upon-Tweed, Northumberland TD15 1ED: Stephen Smith: photograph album as chemist on a casualty ship 1914-18 (BRO.1147)

Bolton Archive and Local Studies Service, Central Library Civic Centre, Le Mans Crescent, Bolton, Greater Manchester BL1 1SE: William Blain & Sons, pharmaceutical chemists, Bolton: prescription books 1865-1961 (ZBL)

Cornwall Record Office, Old County Hall, Truro, Cornwall TR1 3AY: Robert E Pearce, chemist, Newquay: prescription books 1927-1975 (AD1678)

Derbyshire Record Office, New Street, Matlock, Derbyshire DE4 3AG: Bernard Wallis Harrison, local historian, pharmacist: papers and ephemera rel to Long Eaton and Nottingham local history 1939-1990 (D6310)

A Greaves & Son Ltd, chemists, Chesterfield: additional records 20th cent (D6295); Redvers Smith Limited, pharmacists, Ilkeston: records 20th cent (D5534)

Somercotes Pharmacy: records 20th cent (D6319)

Dundee City Archives, 1 Shore Terrace, Dundee DD1 3AH, Scotland: Unidentified apothecary: notes c1700

Continued on p. 19

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History of the Pharmacy Department at Whipps Cross University Hospital 1903-1970s

Patricia Stone B Pharm, MRPharmS, MCPP (Emeritus)

Formerly Principal Pharmacist

The early part of this history was researched from the records held at Waltham Forest Archive and Newham Archive. The latter was a particularly fruitful source, since it includes the Minutes of the West Ham Board of Guardians who managed the hospital from 1903 until 1930, and also the Minutes of the County Borough of West Ham, which managed the hospital from 1930 until the advent of the National Health Service in 1948. Much of the history comes from the author's own memories.

From the beginning

The early history of the Pharmacy, or Dispensary as it was originally called, has been extracted from the minutes of the various committees of the West Ham Union Board of Guardians which managed both the Workhouse and the Infirmary.[1] These are held at Newham Archives and Local Studies Library.

Whipps Cross Hospital was opened in 1903; at that time it was to provide an infirmary for the sick paupers of West Ham – a companion institution to the local workhouse, the West Ham Union Workhouse, later to become Langthorne Hospital. The social history which led up to the building of workhouse infirmaries nationally has been outlined by Dr Eric Dormer in his book *The Origins and History of Whipps Cross University Hospital*.[2] When built it was called the West Ham Union Infirmary. The Guardians drew up Regulations[3] for the Infirmary, which may be seen at Waltham Forest Archive at the Vestry House Museum. Article 25 of the Regulations deals with the appointment of officers, and lists Medical Superintendent, Chaplain, Matron, Steward, Dispenser, and Porter.

Article 30 states that 'No person other than the Assistant to the Medical Superintendent shall be qualified to be appointed a Dispenser unless he be a licentiate of the Society of Apothecaries of London, [i.e. a doctor], or hold a certificate of that Society as to his qualification to act as an assistant in compounding and dispensing medicines, or is a compounder of medicines duly qualified in accordance with the Regulations for the Army Medical Staff Corps or has been duly registered under the Pharmacy Act (Ireland) 1875, and the Pharmacy Act (Ireland), Amendment Act, 1890, as qualified to compound medical prescriptions.' The Medical Superintendent was, of course, a doctor, and so were his Assistants. Thus a pharmacist registered in England, with the then Pharmaceutical Society of Great Britain, would have been excluded.

The medical staff consisted of the Medical Superintendent, a Senior Medical Officer and five Assistant Medical Officers.

Duties of the Dispenser

Article 45 of the West Ham Union Infirmary Regulations sets these out as follows:

No 1 To take charge of, and keep carefully and safely, as far as shall be in his power, all drugs, medicines, medical and surgical appliances and medical stores provided by the Guardians for use in the Infirmary.

No 2 To compound and supply all medicines, and to supply, from the stores under his charge, all medical appliances required by the Medical Superintendent for the use of the inmates.

No 3 To prepare and dispense skilfully and carefully all prescriptions drawn up and ordered by the Medical Superintendent, and punctually to supply the medicines, when prepared to the persons authorised to receive the same; and, when so required by the prescriptions, to express in writing the proper directions to accompany them.

No 4 To keep an account, in a book to be supplied to him by the Guardians, of the medical stores and appliances committed to his charge, and from time to time submit the same to the Medical Superintendent, who shall lay it before the Visiting Committee, and to bring under the notice of the Medical Superintendent or Visiting Committee the need for the further supply of the requisite drugs, medicines, and medical and surgical appliances, as and when such need shall occur.

No 5 To keep an account of all medicines and medical and surgical appliances received by him, and the consumption or disposal of such medicines and medical and surgical appliances, in a book to be framed according to such form as the Medical Superintendent shall recommend, and the Guardians shall order to be adopted; and to submit the same to the District Auditor for examination at the time of the audit.

No 6 To render such assistance to the Medical Superintendent in keeping the Medical Relief Register and Case Book as he may be required by the Guardians to give, and to act generally under the instructions of the Medical Superintendent.

Planning the Dispensary and other works

The original Dispensary, which continued in use until 1991, opened off the main corridor, and was centrally placed near the original entrance hall. The Medical Superintendent's office opened off it and in later years became the Principal Pharmacist's office. The basement was a stores area.

Figure 1 was taken in 2004 when an additional entrance (under the porch roof) had been added. The two windows above the stores entrance door were those of the Medical Superintendent's office, and the next two, the Dispensary. The right-hand window belonged to the department next door. By the 1950s this was the Casualty X-Ray Department, and this extra space only became part of the Dispensary when its radiation protection was found to be inadequate and the X-Ray Department moved away.

In 1902, West Ham Union Board of Guardians was

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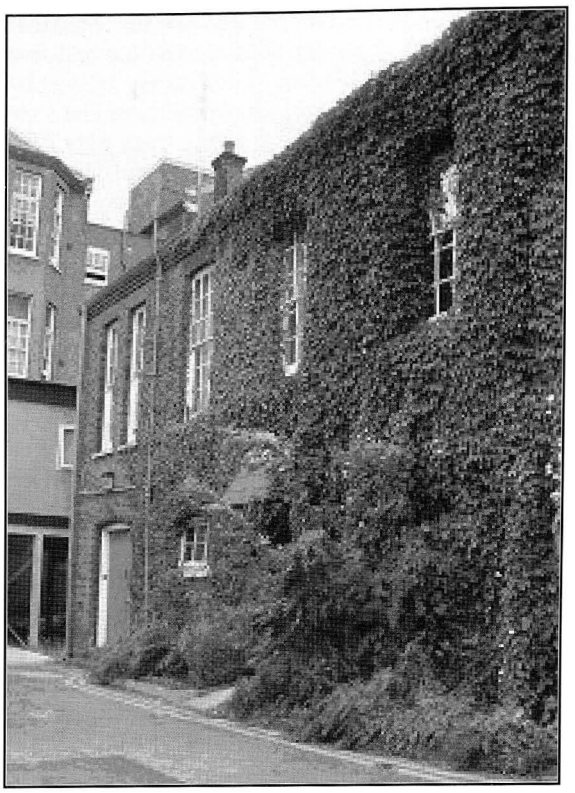

Figure 1. The original Dispensary

in the thick of planning for the new infirmary. On 4th June 1902, drawings for the Dispensary were approved, and at a later meeting three tenders for the fitting-out were considered, for £170, £195 and £175. Messrs Shillitoe, with their tender of £175, won the contract. This sum was to be the last significant expenditure on the fabric of the Pharmacy until it was replaced 88 years later. At the same meeting, a tender for £310 for the Infirmary clock was approved. For the Dispensary, economy won the day when the tender for dispensing bottles was considered on 20th May 1903, when Messrs Burgoyne, Burbidge and Co were given the contract with their bid of £84 5s. 8d, against Allen and Hanbury's, Maw and Sons and Down Bros. bids for £103 6s. 10d, £104 3s. 7d and £115 1s. 8d respectively, being rejected. One can only wonder at the precision of the pricing for these bids, for a commodity whose usage had not yet been established.

Spending on medicines management generally was evidently not a high priority with the Board of Guardians. Presumably because of the Poisons and Pharmacy Act (1908) which introduced stricter controls for medicines which were classified as poisons, in 1909 we find that poison cupboards are to be supplied to the wards; tenders were considered, and 25 were received, ranging from £37 2s. 6d to £13 7s. 9d. It comes as no surprise to learn that the last was accepted. However, the Board soon heard from the successful contractor – he 'had had a severe relapse of his complaint, and was unable to work'. A new contractor was appointed, but by April he reported that he had made a mistake, and could not supply the cupboards for 9s. [45pence] each, and should have quoted £1 7s. 9d. each. His contract was withdrawn. In May it was reported that no tenders for the work had been received (it looks as though word had got round!), so the Board decided that the cupboards should be made in-house at the Workhouse. At the same meeting, the Board readily agreed to providing epaulettes for the tunic of the Captain of the Fire Brigade, and that he should be furnished with a plated helmet. In 1949, a further 20 drug cupboards were supplied for the wards,[4] so the home-made ones had served for 40 years.

In May 1907 the Visiting Subcommittee reported after visiting the Dispensary that the attention of the Works Committee be drawn to

the dirty state of the ceilings
the defective hot water supply
the faulty fireplace [evidently it smoked].

It was later reported that these defects had been remedied, but there are further references to smoke problems at later dates. In October 1908 it was agreed that the bench in the Dispensary 'proposed to be used as a laboratory bench' be prepared with paraffin wax. This must have been the main bench covered with green linoleum which continued in use until 1991. In 1912 the Works and Tenders Committee agreed to the walls on both floors being washed down and distempered, but 'the suggested fixing of glazed tiles be not entertained'. They climbed down two months later, and agreed to tiling the wall above the sink.

Thirteen years later the Dispensary was visited by the Visiting Subcommittee,[5] which drew the attention of the Works Subcommittee to the walls and ceiling. As a result, it was agreed that four painters should be engaged from the unemployed list to carry out this work, together with the painting and cleaning of the store room below the Dispensary. It must thus have been later that the basement was converted for use as a work space, where the ward stock orders were processed.

In later years, there are few references to the Dispensary in the minutes. However, in December 1931, the Medical Superintendent recommended that 'a distilled water apparatus be installed in the Dispensary at an approximate cost of £12 4s. 0d.', and this was agreed. In 1946, a hot air steriliser oven was agreed at £36, and in the same year it was noted that an Inflammable Materials Store as an annexe to the Dispensary had cost £200.

The early days of the NHS

Local hospitals in 1948

The pharmacy at Whipps Cross has evolved over the years and has merged with the other pharmacies in the district. Its history, therefore, must include some details of these other departments and the changes that have led to their closure. In 1948 at the formation

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Table 1. Local Hospitals
* Pharmacy departments in these hospitals.

Leytonstone (No. 10) Hospital Group
Langthorne* Hospital (formerly West Ham Union Workhouse, then The Central Home);
Whipps Cross Hospital* (formerly West Ham Infirmary; hospital renamed during World War 1);
Health Services Clinic, Leyton Green Road;
Health Services Clinic, Granleigh Road
Forest Hospital Group
Chingford Hospital;
Connaught* Hospital;
Forest Hospital;
Harts Hospital;
Jubilee Hospital;
Lugano;
Thorpe Coombe Maternity Hospital;
Wanstead* Hospital.
South Ockenden HMC
Leytonstone House Hospital*
Claybury HMC
Claybury* Hospital
West Ham County Borough Council
Forest House and Forest House Cottages

of the National Health Service, there was a complex structure of local hospitals (Table 1). Over the years, this was rationalised, and the various management changes which have been implemented have been mirrored by relocations and restructuring of the pharmacy service.

Whipps Cross Pharmacy: 1950s and 1960s

I joined the staff at Whipps Cross as a pre-registration student in 1957. The sections that follow are based on my memories augmented by those of present and former staff.

Attitudes towards the pharmacy department had not changed all that much from those of the old Infirmary. Some of the older medical staff still referred to Frank Allen, the Chief Pharmacist, as the Dispenser. There had been no investment in the pharmacy, and the services had changed little over the years. However, there was a strong emphasis on what we would now call clinical pharmacy, although not practised on the wards. Frank Allen had been a founder member and Secretary of the Whipps Cross Hospital Medical Society[6] (forerunner of the present-day Forest Medical Society), and he had a wide-ranging clinical knowledge. Part of his remit as Secretary had been to select the cases for the clinical meetings of the Society. The drugs in the Dispensary were stored in pharmacological order, and there was no location index. To find a drug, one had to know its mode of action – a wonderful grounding in applied pharmacology. Frank had also set up a drug information file, and many drug information requests were received from the medical staff. The staff were few. I recall two dispensing assistants, to be joined after a few weeks by a Deputy Chief Pharmacist, the previous one, A.E. Haynes, having left to become Chief Pharmacist of the Connaught Hospital. There were also a clerk and three porters. Incredibly, we also had a full-time cleaning lady. In later years, work study intervened and this generous allocation was cut.

The pharmacy was still housed in the original Dispensary, the former Medical Superintendent's office having become the Chief Pharmacist's office (now the Gillian Hanson Centre). In the Dispensary there was one island bench covered with dark green linoleum. The room was lined with dark wood drawers (known as 'drug runs', originally intended for the storage of powdered drugs and dried leaves) with brass knobs cleaned daily with metal polish. Various cupboards and fixtures had been purloined from other departments. One corner of the Dispensary was partitioned-off to make an office for the clerk, who wrote out all the orders for drugs in an exercise book, then copied them neatly into an enormous requisition book known as 'the tome' (Figure 2) which was taken once a week to the Supplies Department at Langthorne for the official orders to be typed. As by law drug orders had to be signed by a pharmacist, these were then returned to Whipps Cross for signature before being posted. It was to be many years before the Supplies Officers allowed us to have blank orders and to type them in the pharmacy.

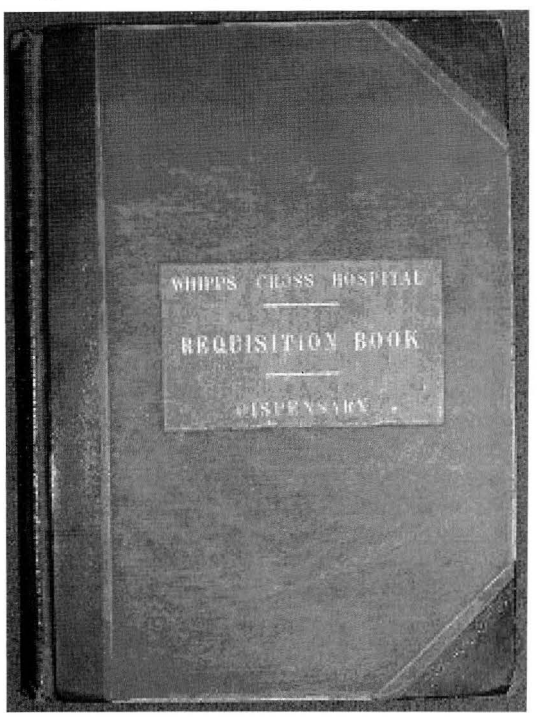

Figure 2. This 'tome' survives in the Whipps Cross Archive. It starts in 1934, and contains the first requisition prepared by Frank Allen in 1942. This contained some strange items, e.g. Tablets of Common Cold Vaccine and Mersalyl Tablets.

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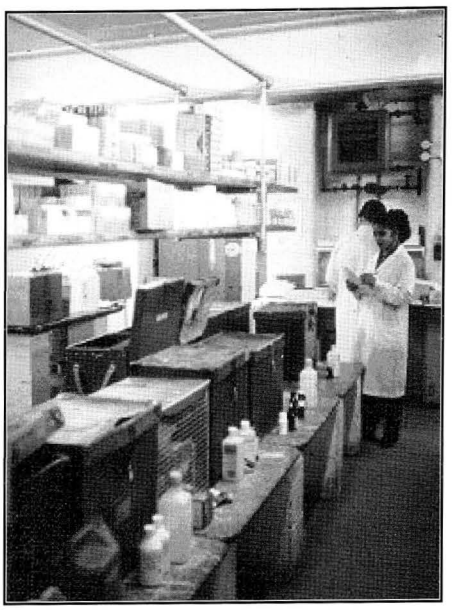

Figure 3. Ward boxes

The only entrance for visitors led through a small hall, which was also the waiting area for outpatients. A small hatch for serving outpatients had been created by removing one pane of the glass surround of the door; as one had to crouch to speak through it, all prescriptions were issued by opening the door. Stairs led to a basement area with no heating – good for the drugs but not for the staff – where the ward baskets used for ward stock orders were processed. These were wicker baskets made by the West Ham Workshops for the Blind. The baskets were laid out on low benches made from the 'marble' tops of redundant ward stoves, from the days when central heating was a coke stove in the middle of the ward. The baskets were delivered to the wards via a short ramp leading to the basement corridor. This had been built during 1954/55 at a cost of £432. This was probably when the area was adapted for use additionally as a distribution and manufacturing area, having previously been a store room.

By the time Figure 3 was taken, the wicker baskets had been replaced by lockable boxes, and gas heating had been installed. The heater can be seen above the two staff members' heads. It was still freezing at ground level, but the area just under the ceiling was positively tropical. Some items were manufactured here – Ammonia and Ipecacuanha Mixture (brown cough mixture), Magnesium Trisilicate Mixture (white indigestion mixture) and vast quantities of mouthwash.

Incredibly, the pharmacy had virtually no sterilising facilities of its own. Nevertheless, it produced so-called sterile water for use in the operating theatres. The returned bottles were refilled by the porters whenever they had a few odd moments, in the cramped, filthy still room (which was also used by the porters as a locker room and hidey-hole) opening off the basement corridor. When they had a trolley-full, the bottles were wheeled precariously across the grounds to an ancient two-ended autoclave in a ramshackle building near the laundry, which had been installed for sterilising blankets. Its sterilising cycle was totally unsuitable for sterilising fluids. The boiling-hot bottles were extracted from the 'clean end' of the tunnel-like autoclave, and then trundled back to the pharmacy. On cold days a few blew up on the return journey. This autoclave was an early example of income generation, since it was also used for sterilising army blankets.

Pharmacy was also responsible for distributing oxygen and other medical gas cylinders to the wards and had an extra porter on the staff to allow for this. Traditionally this was a conscientious objector undertaking hospital work in lieu of National Service. The cylinders were stored in a building outside the pharmacy back door. It had two rooms, the inner being for flammables, which in those days included vast quantities of anaesthetic ether, and the outer for gas cylinders. This arrangement ensured that any escaping oxygen plus a spark from a cylinder scraping across the concrete floor, would probably cause an apocalyptic explosion. Dispensing was continually interrupted by wards telephoning requests for replacement cylinders. We also took requests for the hospital's only ECG technician, who called in twice a day to see where her services were required.

Surgical dressings were also issued by the Pharmacy, and were stored in a basement store in D Block, under the roadway. Water dripped through the ceiling in places and there were stalactites. Ambulances passing overhead to the then Casualty Department, housed in the old Infirmary's Receiving Ward (a name which was still in use) made strange swooshing noises. This led a later student to decide that the place was haunted, and he refused to work there alone. At about this time, the Pharmaceutical Society issued a policy statement that pharmacies should not handle dressings, and Frank Allen started to campaign to get them transferred to the General Stores. Fourteen years later, this transfer took place, and the same week the Pharmaceutical Society reversed its policy. The dressings never returned to the pharmacy, however.

The Pharmacy was also responsible for the issue of surgical stores to the wards, and the stocks of syringes, thermometers, undines and Nelson's inhalers etc. were kept in a dingy room in C Block basement. Once a week nurses had to attend with broken pieces which were exchanged on a one-for-one basis. The syringes usually arrived in powdered form so that no one could judge accurately how many there had been. Alfred Haynes recalled that blunt needles were collected and then sent to the Supplies Department, where they were weighed to estimate numbers, and then sent to a contractor for sharpening before being returned to the hospital for reissue.

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The pharmacy also handled equipment repairs of such items as sphygmomanometers from the wards, and even instruments used in the theatres. Once a year quantities of new instruments would be received as new items could be requisitioned only after the submission of a request via a process known as 'the annual estimates'. Lists of requirements were submitted to the Hospital Management Committee (HMC) which then decided which items should be ordered, and where economies should be made, often with no reference to any priorities the users may have had. There was a story (possibly apocryphal) about a surgeon who had ordered a pair of instruments for a certain procedure, only to find that the HMC had economised by ordering only one; for the second he had to wait another year. Identifying the instruments and issuing them to the correct departments was a huge job for which no one had had any training. One memorable afternoon, Frank Allen discovered me sobbing with frustration over a huge pile of eye surgery instruments; he dashed into the corridor and dragged a passing ophthalmologist into the Pharmacy to sort them out. Pharmacy's involvement with instruments continued until the Central Sterile Supply Department (CSSD) opened, when all pharmacy involvement with surgical items and instruments ceased.

The early history of the staff: an Apothecary's Assistant

The first patients were due to be admitted on May 28th 1903, but the first Dispenser's appointment was not agreed until May 14th 1903. From a shortlist of three, Miss Ethel M Cutfield was appointed, at a salary of £80 per annum with dinner and tea daily. She had qualified as an Apothecary's Assistant on July 25th 1901.[7] She was also probably qualified as a nurse, since the only Ethel Cutfield listed in the 1901 Census gave her occupation as certificated sick nurse.[8] At the Board's 23rd April Staff Committee meeting, the receipt of a letter from the Poor Law Dispensers' Association about the salary proposed was noted. One assumes that they thought it was too low. However, it was recommended that no action be taken.

Unfortunately, Miss Cutfield's relationship with her employers was not always a happy one. Viewed from a modern standpoint, her terms and conditions of employment inevitably would have created problems; we would also consider that she was lacking in experience and understaffed for the responsibilities and workload that she had to shoulder. After 13 months of employment, on June 29th 1904, she applied for four weeks' leave of absence. The Board decided to allow her three weeks (I assume without pay); Miss Self, who was properly qualified, was to be her locum, receiving 25 shillings per week [£1.25]. Miss Cutfield could take an extra week, if she recruited, and paid for herself, a suitable deputy.

By November 1904, Miss Cutfield was off sick with influenza, and Mr Adams, Dispenser at the Workhouse, was being paid 10 shillings per week [50 pence] to cover her duties. At the end of that month, the Medical Superintendent reported that she had had two days off owing to the illness of a friend, and he brought up correspondence he had had with Miss Cutfield; the committee recommended that she, under all circumstances, be requested to tender her resignation. They proposed to appoint one of the earlier candidates for the job (another woman) forthwith. On December 8th 1904, two male members of the Infirmary Visiting Subcommittee moved that a male dispenser be appointed, but this, on being put to the vote, was declared to be lost. Shortly afterwards, Miss Cutfield wrote to the Board to ask them to reconsider, and they decided that her resignation should not take effect for three months, 'after which the Medical Superintendent would report as to the manner in which the officer has carried out her duties.' In April 1905, the Visiting Subcommittee decided to adjourn the question for another three months, with the proviso that she should be interviewed by two Committee members who would recommend that the officer be required to adhere to the time originally specified for her to commence her duties, ie 9 am. In later years, it was noted that Miss Cutfield be allowed four weeks leave as in previous years, and a locum engaged.

In May 1908, Miss Cutfield applied for six months' leave without pay to study for a higher qualification, but this request was refused. In June 1908, The Local Government Board raised no objection to a proposal that the Dispenser at the Infirmary would be responsible for the reception and charge of drugs and medicines, and for the return of druggists' empties; presumably prior to this, these jobs were handled by the General Stores. Whether Miss Cutfield objected to these proposals was not recorded. Perhaps these additional duties were the last straw, since by September 9th 1908, Miss Cutfield had resigned. It is pleasing to record that she did eventually qualify as a pharmacist (with the so-called Minor qualification), being registered on January 6th 1910.

Soon afterwards, the Infirmary Committee recommended that advertisements should be issued inviting applications for a male dispenser at a salary of £100 per annum rising by annual increments to a maximum of £120, with dinner and tea. Miss Cutfield would have been chagrined to learn that one month after the appointment of Gwilym Evans to the post, his hours were amended to 9.30 am to 6 pm, with one hour off for dinner, ½ hour off for tea and no attendance on Sunday. The Board also noted that, at the time of his appointment on January 7th 1909, Mr Evans be required to register as a Chemist and Druggist within three months of taking up his duties. Gwilym Evans in fact did not register as a Chemist and Druggist until November 2nd 1920. He did however, have the essential qualification in the eyes of the Guardians – he was a man!

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The Alcohol and Spirituous Liquors crisis

In May 1905, the Board set up a Subcommittee with a succinct title: The Committee to Consider Consumption of Alcohol and Spirituous Liquors at the Workhouse and Infirmary. This appears to have been in response to criticism of levels of consumption from temperance organisations and concerns about expenditure; it was thus perhaps the earliest attempt to set up a drug and therapeutics committee. As in present day efforts to control prescribing, this drew a heated response from the Medical Superintendent defending, as doctors continue to do, his right to prescribe what he liked to whom he liked. To those of us who have sat through countless such committee meetings, his arguments will have a familiar ring, even in some cases down to the 'shroud waving' and the emotive pharmacology. His letter, considered at the meeting on May 11th 1905, gives an interesting overview of the work being undertaken in the Infirmary at the time.

Sir,

Respecting the use of alcohol in this Infirmary, I beg to report that it works out at 3s.7¼d. per head. The return showing the amount consumed in other infirmaries is, I think, unsatisfactory, only a few institutions being mentioned; none of the Fever Hospitals or General Hospitals are included. I wish to point out that there are very few institutions comparable to West Ham for the following reasons:

We have to treat our own cases of fever, especially enterics [typhoid fever] (about 250 in the year under review). These cases are not kept in London and most provincial Infirmaries or Hospitals.

We have to deal with the acute sick of a district at least more than twice as large as any other Metropolitan area, therefore it follows that we have twice as many acute cases. The number of beds is practically the same.

Owing to the nature of the Union and its size, we have an enormous number of patients who drink to excess. There are certain diseases, especially Pneumonia, Erysipelas, Influenza, and injuries which are very fatal [sic] to alcoholics, and a sudden stoppage in its use means often certain death.

We do all our own operations, some 300 per annum. I do not think as a general rule that London Infirmaries get these cases, as they naturally go to the large hospitals.

A very large number of patients are brought here in an exhausted and dying condition, and something has to be done for them even in the ambulance.

Now as to the use of alcohol at all I have to say that:

Alcohol is not used here as a food beverage or luxury, but as a drug, and I have yet to learn that a medical man may not choose his own remedies as long as they are sanctioned by the general medical opinion of the world. It being an admitted fact that alcohol is a stimulant , and that stimulants are sometimes necessary in diseases, what does it matter by what name the special stimulant is called?

I could easily make it appear that no brandy, etc., was used. I prefer to be open in the matter.

Dealing with other points that may arise, I wish to say that:

All patients placed on stimulants are inspected weekly, with a view to its discontinuance.

No officers are supplied with stimulants, nor do they have it.

The beer mentioned is practically all Christmas allowance.

E Vallence

Medical Superintendent.

The Committee resolved that in future all Alcoholic and Spirituous liquors at the Infirmary be kept in the Dispensary, and issued as required by the Dispenser.

At the May 31st meeting, the Committee received a letter from Miss Cutfield, in which she requested adequate assistance in taking on the extra work, and also for an increase in her salary, owing to the increased responsibility. As usual, the Committee was unsympathetic, since the matter was merely adjourned for three months. By September, the Medical Superintendent reported that the new arrangements had not been implemented because there had been difficulties in arranging for a proper store, only concluded just as Miss Cutfield was due to go on leave. Also, 50 new books had not been delivered from the printers. He did not mention the question of staffing, but at the October 4th meeting, to quote the Medical Superintendent:

> I have no objection to the Dispenser having a pupil as long as it is understood that Miss Cutfield is the only person responsible for the dispensing. May I suggest that the Guardians advertise for a pupil. She would receive her dinner and tea and have to pay an annual fee of £15 to Miss Cutfield.

The Committee was unable to adopt the suggestion as to advertising, and recommended that Miss Cutfield be empowered to engage a pupil on the terms mentioned. The Local Government Board evidently thought this arrangement as bizarre as we would today, since they wrote to the Guardians on December 21st seeking the views of the Board on an advertisement in the Pharmaceutical Journal of November 25th:

> Practical dispensing taught, or experience given, to ladies already qualified, at the West Ham Infirmary, Whipps Cross, Leytonstone. Small premium required - for particulars, apply to the Dispenser.

On February 1st 1906, the Guardians received the following letter:

Sir,

I am directed by the Local Government Board to acknowledge receipt of your letter of the 3rd ultimo, relative to the arrangement under which Miss Cutfield, Dispenser at the Infirmary of West Ham Union, has been permitted to undertake the instruction of a pupil.

The Board direct me to state that they are not prepared to approve of an arrangement under which a person not an Officer of the Guardians, and, therefore, not directly subject to their control, is to attend the Infirmary for the purpose of receiving instruction from one of the Guardians' Officers.

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> The Board consider that, in order that the arrangement may be on a proper footing, and that the Guardians, as the responsible authority, may take all proper safeguards, the pupil should be appointed as an Assistant Officer under the provisions of Article 26 of the Order of 5th August 1903. The premium, if any, should be paid by the pupil to the Guardians, who should arrange for the Dispenser to give instruction to the Assistant or pupil in consideration of such increase of her remuneration as may be agreed upon.

As usual, the Guardians deferred making a decision until they had received a further report. However, on February 21st they reported that they had considered the salaries usually paid to dispensers in infirmaries ... and recommend that the suggestion in the letter of February be put into effect. This evidently did not happen, since on May 16th 1906 Miss Cutfield wrote to say that she had had no answer to her advertisements, and she requested the Guardians to increase her salary in place of the premium. They finally agreed to increase her salary by £12 per annum and to readvertise the post without a premium. By this time, Miss Cutfield had been issuing the spirituous liquors unaided since the previous November. Thereafter, a succession of pupils is recorded. They came for three-month periods, sometimes extended. They received no pay. One supposes that providing instruction may have added to Miss Cutfield's burden rather than otherwise.

By 1908, the Alcohol Committee (as thankfully it is now called) reported comparative figures for expenditure on alcohol.

	Cost	*No. of patients*
June 1908	£1 7s. 0d	759
June 1907	£2 11s. 3d	619
June 1906	£15 19s. 5d	618
August 1908	£2 10s. 8d	744
August 1907	£1 9s. 6d	642
August 1906	£12 4s. 7 ½d	606

Thus Miss Cutfield's efforts had saved the Infirmary about the amount of her annual increment each month, an early example of pharmacy intervention saving substantial sums. This is nowhere acknowledged.

Brandy continued to be issued by the Pharmacy at Whipps Cross until around the 1990s. In fact, the author was surprised to dispense brandy on her first day at work, as the first ever prescription of her professional career.

The 1914 - 1918 War

Dr Dormer has described the changes to the work of the Infirmary which resulted from part of it being used to treat wounded solders. Not least, the name change to Whipps Cross War Hospital was retained after 1919, and thereafter Whipps Cross Hospital has always formed part of the title.

In July 1915, Gwilym Evans, unlike some of the medical staff, evidently had not enlisted, and was still working at the hospital, since in the Salary Account, he is listed as earning £11 17s. 8d, with superannuation of £0 5s. 5d per month. However, in December 1917, Miss Mabel E A Watt was appointed Dispenser for the period of the War, at the salary of £120 p.a. Whether this was to cover for Mr Evans' absence is not stated. Mr Evans would not have entered the Army as a pharmacist at that time, since the Army did not employ pharmacists until many years later. The first pharmacist to be commissioned in the Army actually worked at Whipps Cross in the 1970s as a basic grade pharmacist before leaving to take up a commission.

In 1915, a woman was appointed as dispensary porter, but only for the duration of the War. This innovation was not repeated until 1991, when the pharmacy moved to its new department with the assistance of two very energetic ladies. In November 1914, it was agreed that the application for Lance-Corporal Searle to obtain practical experience in the Institution Dispensary be acceded to. History was to repeat itself many years later when, in the 1980s, a Ministry of Defence pharmacist was seconded to the pharmacy for a period to gain experience in ward and clinical pharmacy.

Between the wars

The pharmacists (or dispensers) employed by the Board of Guardians benefited from salary increases as a result of the 1914-1918 War, since they received a War Bonus that evidently continued after the war. On June 30th 1921, the salary account lists three out relief dispensers, who were earning £31 1s 7d per month each. These would have been working at the public dispensaries located within the West Ham area. Also listed were J G Fry, Dispenser at the Central Home, and G R Evans, Dispenser at the Infirmary, both of whom were receiving £36 12 6d. including War Bonus.

In 1921, workload figures were quoted: the number of patients was 760, compared with 545 on the same date the previous year.[9] This increase, of around 40%, was sustained throughout the year, not just that month. Sadly, by this time Mr Evans no longer had any assistance. In March 1924, he applied to the Hospital Committee for an assistant. In April,[10] the Staff Committee agreed that 'a qualified dispensing assistant be engaged for five half days weekly at the Hospital, his services being available to other institutions and at the Relief Stations during the absence on holiday or during sickness of the dispensers there.' Considering that there were several relief stations and the Workhouse to be covered, this was hardly a generous increase. However, this did not stop the Board trying to put a stop to it, since at their meeting nine days later it was moved that the above clause should be deleted from the Staff Committee minutes. Happily for Mr Evans, the motion was lost. He had thus just achieved agreement for the first permanent addition to the professional establishment of the pharmacy department in its history.

In July 1926, the Staff Committee turned down an application for a locum dispenser for three days to

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cover time off in lieu for May Day, Easter and August Bank Holidays. They recommended that officers be off duty on the day when the holiday is granted, and otherwise afterwards as soon as reliefs can be arranged. [The author remembers having a discussion on the same theme with a personnel officer fresh from industry who could see no reason why pharmacy staff could not take non-statutory leave days on the days immediately before and after bank holidays. On its being explained that these were in general the busiest days of the year in the pharmacy, she said that any managers worth their salt would simply arrange for the staff to postpone the work until a more convenient time. She was soon disabused of this notion.]

When considering the Board of Guardians' seeming indifference to any problems in the pharmacy, one should remember that during this period they had pressing problems of their own. Expenditure was running out of control and there were debts of half a million pounds.[11] The Guardians were dismissed by the Minister of Health, their role being taken over by three commissioners until their reinstatement at a later date.

New management, old attitudes

Following the Local Government Act (1929), Boards of Guardians nationally were abolished in 1930, and the social and health services they formerly managed were then directly managed by the local authorities. Generally the task of managing the hospitals and public dispensaries passed to the public health and public assistance/social services committees of each county or county borough council. Thus further records of the management of Whipps Cross and of the Central Home (later to become Langthorne Hospital) may be found in the minutes of West Ham County Borough Council, at Newham Local Studies Library. West Ham's portfolio of health institutions also included Forest Gate and Harold Wood Hospitals; Goodmayes Hospital (then known as West Ham Mental Hospital); Forest House and Forest House Cottages on the Whipps Cross site, and various other homes and clinics including TB Dispensaries. In March 1931, Whipps Cross treated 942 inpatients, and in October 1930, the Central Home, (whose Pharmacy also covered Forest Gate Hospital) had 1771 inmates.

In 1929, the New York Stock Exchange had failed (the 'Wall Street crash') and this was followed by a world-wide depression. In Britain in 1930 there were two million unemployed and impending national bankruptcy. The Prime Minister, Ramsay MacDonald, proposed pay cuts and reductions in unemployment benefit; he resigned when these measures were rejected and then returned as the leader of an emergency coalition government. In 1931, West Ham were to introduce a series of pay cuts of around 10%, known as abatements. There was fierce opposition, to no avail, from many staff organisations.

Amazingly, the pharmacists chose this time to approach their new managers for a pay increase.[12] In July 1930, it was reported that an application had been submitted by the National Union of Drug and Chemical Workers for an increase in the salary of the Dispensers at Whipps Cross Hospital and the Central Home. Unsurprisingly, the committee were unable to recommend any action at that time.

On 13th January 1933, we find in the Salaries and Wages Committee report to the Council,[13] a reference to the Guild of Public Pharmacists (later Guild of Hospital Pharmacists, now Guild of Healthcare Pharmacists):

> **Whipps Cross Hospital Pharmacist**
>
> That they have had submitted to them a letter from the Guild of Public Pharmacists asking for the appropriate scale of salary adopted by the LCC for institutional dispensing staffs viz. Scale A, comprising all general hospitals of more than 600 beds - £400 rising by £20 per annum to £500, be applied to the Pharmacist at Whipps Cross Hospital. Your committee were informed that the Pharmacist at Whipps Cross is receiving a salary of £400 plus emoluments valued for superannuation purposes at £29 4 0d. p.a., and had the assistance of a part-time dispenser, and, having given consideration to the matter, they are unable to recommend that the application be acceded to.

At least they got his title right. Mr Evans had been appointed 25 years earlier, so would have been entitled to move to the top of the scale; then as now, loyalty was rarely rewarded. It is curious that they referred to having an assistant as a reason for not granting a rise – now we would consider the supervision of a junior as an increase in responsibility, although one doubts that one part-timer would be worth much!

The pharmacists, however, were not giving up so easily. The following May, the Salaries and Wages Committee reported:

> **Dispensers - Central Home and Whipps Cross**
> that they have placed before them a letter from the West Ham Branch of the National Association of Local Government Officers, submitting for consideration the question of the salaries of Mr J G Fry and Mr G R Evans, the Dispensers engaged respectively at the Central Home and Whipps Cross Hospital.
> These officers receive at present salaries of £400 per annum plus emoluments valued at £29 4s. 0d. and the Association asked for the appropriate scale of salary ... [as quoted above]
> Your committee had a representation from the Medical Officer of Health who recommends that the application be acceded to, and that Mr Fry and Mr Evans be placed on the scale at the stage of £460 p a, rising to a maximum of £500 by two annual increments of £20; the amount of £29 4s. 0d. to be deducted in respect of meals supplied to them.
> The salary will be subject to the appropriate abatement in accordance with the resolution of the council now in force.

Taking account of the abatement, this means that the salaries had risen from £360 to £387 16s. 0d. p.a. The abatements ceased over 1934-35.

On 5 April 1933, the number of patients in the

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hospital was reported as 989; this was an increase of about 30% since 1921.

A new Chief Pharmacist (or Dispenser)

Mr G R Evans had been appointed in 1909. His employers were, however, underwhelmed by his death in 1942, aged about 60. It was reported two days after the event thus:[14]

> **Death of Dispenser, Whipps Cross Hospital**
> That it having been reported to them that Mr G R Evans Dispenser at Whipps Cross Hospital had died on 11th October 1942, they have given directions for the vacant position to be advertised amongst the Council's staff in due course.

Deaths of other staff members, and relations of staff members, had on previous occasions, been marked by letters of sympathy to relatives and expressions of esteem. Mr Evan's death was reported in the *Pharmaceutical Journal* of October 17th 1942; here at least he was described as the Chief Pharmacist.

There was little delay in recruiting a replacement. From a shortlist of five, Frank Allen was appointed on 10 November 1942. He had formerly worked as the manager of a pharmacy in Surrey, and then as an Assistant Pharmacist at the Metropolitan Hospital in Kingsland Road before his previous post at the Albert Dock Public Dispensary. One of the disappointed candidates was the Assistant Pharmacist at Whipps Cross Hospital, who later put in for an acting-up allowance for the nine weeks following the death of Mr Evans. This was not granted. One imagines that working relationships within the pharmacy may have been somewhat strained thereafter.

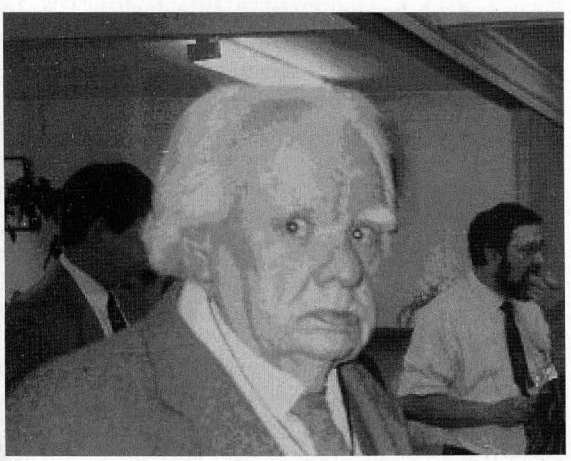

Figure 5. At the author's own retirement party, this photograph of Frank Allen was taken 13 years after his retirement in 1977.

Reorganisations bring new roles

In 1970 a wide-ranging review of hospital pharmacy services nationally was undertaken by a working party chaired by Sir Noel Hall, and a report published.[15] Following the recommendations of that report, and a national NHS reorganisation which had established areas as the unit of hospital management, Frank Allen was appointed Area Pharmacist, with managerial responsibilities for the other pharmacies in the Redbridge and Waltham Forest Area Health Authority (AHA). Principal pharmacists were appointed to manage the pharmacies at Whipps Cross (P Stone) and Langthorne Hospitals (A E Haynes), and the smaller pharmacies at Claybury and Wanstead had Staff Pharmacists in charge (Mr Garbutt and Eileen Thomasson respectively). Frank Allen also managed the pharmacies at King George's, Goodmayes and Barking Hospitals. Before this reorganisation, each pharmacy was independent of the others.

In 1974 yet another NHS reorganisation took place, and the new AHAs took charge of all the health clinics formerly managed by the local authorities. Frank Allen became Area Pharmaceutical Officer (APhO), with a wider role that included liaising with the local pharmaceutical contractors, mainly by attending meetings of the Local Pharmaceutical Committee.

The end of an era

In 1977 Frank Allen retired after 35 years at Whipps Cross. Even as APhO he had kept his office at the hospital. He undoubtedly felt comfortable there, but it did not forward the interests of the pharmacy service, since all the senior Area staff who held the purse-strings were by this time at Claybury Hall and he hardly met them except at meetings of the AHA. The pharmacy remained in a time warp left over from the previous century – under-funded and under-utilised.

I became Acting APhO for several months and devoted a lot of energy to convincing the Area that a substantive appointment should be made. In spite of the recommendations of the Noel Hall Report and the obvious benefits (one would have thought) of a proper management structure, the Area saw this as a golden opportunity to get rid of a senior post, and saw no reason why I should not combine my job as Principal Pharmacist of Whipps Cross (at the time nearly 1000 acute beds) with running the pharmacy service for two of the largest health districts in the country. It took representations from the Regional Pharmaceutical Officer and, once again, the Guild of Hospital Pharmacists to convince them to advertise the post.

Author's note

The facts I have recorded as accurately as possible. The at times cynical opinions expressed are my own. They have been formed by working for nearly 40 years in a department that has been chronically underfunded and undervalued. The disregard for the Pharmacy in spite of its endeavours to provide a first-class service (which in fact supports virtually every other department in the hospital) continues to this day. It is, I believe, the only hospital department which is not mentioned in the Annual Report of 2003 – even the Whipps Cross cat is included.

Patricia Stone joined the staff of the Pharmacy at Whipps Cross Hospital as a pre-registration pharmacy student in 1957, having graduated from the University of Nottingham. After qualifying as a pharmacist in 1958, she stayed on, first as a basic grade pharmacist then as a senior pharmacist. In 1961 she became Deputy Chief

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Pharmacist. In 1973, when the post of Area Pharmacist was created, she was appointed as Principal Pharmacist at Whipps Cross Hospital. In 1987 she became Director of Pharmaceutical Services for Waltham Forest Health Authority's Acute Unit (i.e. Whipps Cross and Wanstead Hospitals), and at her retirement in 1996, was Pharmacy Operations Manager for Forest Healthcare Trust.

Author's address: pstone@waitrose.com

This is an extended version of the paper presented at the BSHP meeting on 22 September 2004.

Endnotes and References

1. West Ham Union: Minutes of the Board; Reports of Committees.
2. Dr A E Dormer. The origins and history of Whipps Cross Hospital. Forest Medical Society, Medical Education Centre, Whipps Cross University Hospital, Leytonstone, E 11 1NR, 2002.
3. West Ham Union Board of Guardians, Regulations for the Infirmary, 1903
4. Leytonstone (No. 10) Hospital Group: *Consolidated Annual Report, 5 July 1948-31 Mar 1952.*
5. West Ham Union Board of Guardians, Visiting Subcommittee, 9 November 1921.
6. Recorded Interview with F.A.D. Allen, Royal Pharmaceutical Society of Great Britain Archive.
7. Archivist, Society of Apothecaries, personal communication.
8. National Archives, 1901 Census.
9. West Ham Union Board of Guardians, Hospital Committee, 12 October 1921.
10. West Ham Union Board of Guardians, Staff Committee, 8 April 1924.
11. Dr A E Dormer. Reference 2.
12. County Borough of West Ham, Salaries and Wages Committee, 11 January 1930.
13. County Borough of West Ham, Salaries and Wages Committee, 13 January 1933.
14. County Borough of West Ham, Social Services Committee, 13 October, 1942.
15. *Report of The Working Party on The Hospital Pharmaceutical Service* (Noel Hall Report). London: Her Majesty's Stationery Office, 1970.

Continued from p. 1

Review: A History of Britain's Hospitals

of a special event such as a centenary. There has alsobeen considerable interest in the history of hospitals amongst social historians of medicine, and today there is an international network for the history of hospitals.

For a general audience interested in the history of hospitals rather than of individual hospitals there has been surprisingly little available. For this reason this new book from Barry and Lesley Carruthers is to be greatly welcomed. The book draws its material from a wide range of secondary sources, some of which are now not readily accessible to the general reader. It is very much a personal and eclectic survey of the history of hospitals in Britain.

The book is divided into eighteen varied chapters, which trace the development of hospitals from Roman times to the present day. Separate chapters describe the origins of the Royal hospitals (St Thomas', St Bartholomew's and Guy's) in some detail, followed by the eighteenth-century voluntary hospital system and the nineteenth-century London voluntary hospitals. Another chapter discusses the first state hospitals, including workhouses, metropolitan asylum boards and municipal hospitals. Later chapters describe the development of specialist, cottage, maternity, children and mental hospitals. There are also chapters on the evolution of the medical and nursing professions, on the independent sector and on the background to the National Health Service. The final chapter addresses the future of hospitals. Reference is made to plans for Foundation Hospitals, now very much a reality.

Throughout the book the authors stress the individual contributions of the men and women who worked to provide an accessible hospital service for the sick poor. Perhaps inevitably there is a rather greater emphasis on the medical staff than others, and London hospitals seem to be given rather more attention than institutions elsewhere.

A pharmaceutical audience will be a little disappointed not to find rather more mention of the apothecary and later the hospital pharmacist. However, there are occasional references to the treatments available and some of the pharmacopoeias on offer. The voice of the patient is a rather silent one.

The book is clearly written and the material is well organised and laid out. However, it would benefit from the use of sub-headings within individual chapters to help guide the reader through the text. A single bibliography appears at the end of the book, listing nearly one hundred books used as source material. However, the text is not referenced so it is impossible to know which source has been used where.

One of the joys of the book is its many illustrations. It contains over two hundred paintings, cartoons and photographs. These are mainly of hospitals, but others illustrate wider aspects of the history of medicine. A significant proportion have not previously been seen outside their original sources. Some are drawn from antiquarian books.

The occasional reference to apothecaries is spoiled by irritating errors. For example, the 1815 Act is described as the Society of Apothecaries Act (page 46), the Society is described as the Apothecaries Company (page 304), and physick garden appears as physics garden. The brief history of the evaluation of the apothecary is also somewhat flawed (page 302).

The book is clearly aimed at a general audience, although there is no preface indicating the origins of the book or its aims. For those unfamiliar with the history of hospitals it offers an informative and entertaining read. The serious historian of hospitals will need to refer to the original books from which much of the material is drawn, and the primary sources used to compile them.

Stuart Anderson

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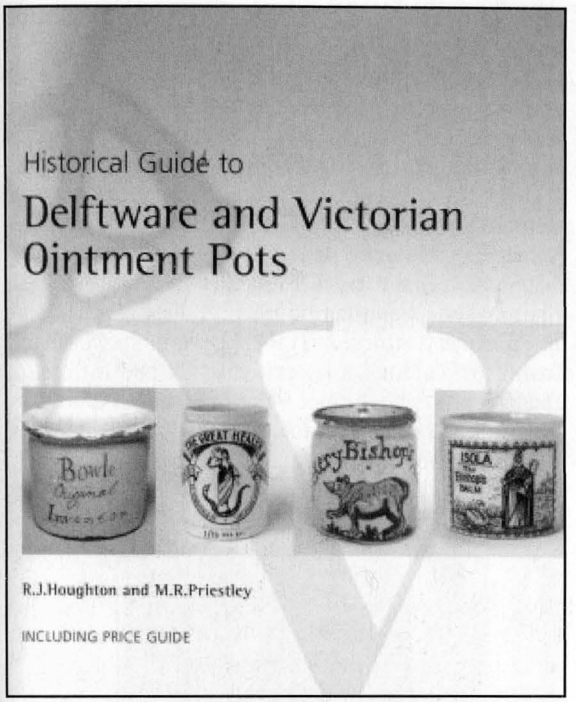

Review

Historical Guide to Delftware and Victorian Ointment Pots

R.J.Houghton and M.R.Priestley, 2005. Obtainable from http://freespace.virgin.net/anna.houghton/ointment%20book.html also direct from the authors: Anna Houghton, 47 Barnards Hill, Marlow, Bucks SL7 2NX (telephone Bob Houghton on 07969 785350).; price £20 plus postage and packing (£4 for UK, £6 for Europe, £10 for rest of world airmail); Cheques should be made payable to 'Anna Houghton'.

From the familiar ointments of Holloway, Singleton and Poor Man's Friend, to the more exotic Bulgarian Bacillus and Electrical Herbal ointments, this book is an extremely attractive and informative read. It has been beautifully produced in a large format, with more than 300 illustrations of individual pots and advertising material.

The contents consist of two short introductory sections on delftware, and Victorian and Edwardian ointments. The main part of the publication is a catalogue of pots held in public and private collections. Each entry includes at least one photograph, full details of the wording on the pot, a history of the medicine and/or manufacturer, and an estimated value. For some of the manufacturers, additional detail is provided. For example, there is a three-page history of Holloway's ointment, and of Nature's Herbal Ointment.

The book is a clear testament to the many years that the authors have spent researching and collecting in the area. All of the objects have been extremely thoroughly researched through the pots themselves, trade directories and census material. The authors have also drawn on objects and material in the Royal Pharmaceutical Society's Museum, the Fitzwilliam Museum, and the Wellcome Library. The generous use of large full colour images is a real treat for object-lovers, and the price guide is useful for collectors.

Briony Hudson

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Records

East Sussex Record Office, The Maltings Castle Precincts, Lewes, East Sussex BN7 1YT: Arthur Taylor, chemist, St Leonards: ledger 1866-82 (Acc 9019)
Jersey Archive, Jersey Heritage Trust, Clarence Road, St Helier, Jersey JE2 4JY, Channel Islands: GHF Flory, pharmacist, Jersey: papers 1942-1980 (JA/953, JA/974)
Nottinghamshire Archives, County House, Castle Meadow Road, Nottingham NG2 1AG: J R B Freeman, chemist, Nottingham: records 1930-71 (DD 2512)
Pharmacist: prescription ledgers 1934-71 (acc 6532)

Wellcome Library for the History and Understanding of Medicine, Archives and Manuscripts Section, 210 Euston Road, London NW1 2BE: Joshua Harold Burn, pharmacologist: corresp with E Muscholl on the Burn-Rand hypothesis 1962-1972 (MS 8161)
Norman George Heatley, biochemist: additional records, diaries and papers rel to his work with penicillin 1932-2003 (GC/48)
G B Armstrong & Son Ltd, dispensing chemists, London: pharmaceutical recipe books 1901-2000 (MSS 8153-8154)
Corbyn, Stacey & Co, manufacturing chemists, London: ms account book 1808-1847 (MS 8094)
William Ransom & Son Ltd, manufacturing chemists, Hitchin: accounts and papers 1850-1960 (SA/WRS)
International Federation of Societies of Histochemistry and Cytochemistry: records 1960- (SA/SHC);
International Union of Pharmacology: additional records (SA/IUP)
Durham University Library, Archives and Special Collections, Palace Green Section, Palace Green, Durham DH1 3RN: Slides and photographs of the Sudan and Nigeria taken by Dr Frank Stansfield, lecturer in inorganic chemistry at Khartoum University, University of Ahmadu Bello, and University of Gezira, with notes and identifications by Prof John Twiddle c1956-81 (G//S 1272, 1276)
Nottingham University Library, Department of Manuscripts and Special Collections, Hallward Library, University Park, Nottingham NG7 2RD: Stewart S Adams, pharmacologist: paper rel to discovery of Ibuprofen 1953-2000 (SSA)
Oxford University: Bodleian Library, Special Collections and Western Manuscripts, Broad Street, Oxford, Oxfordshire OX1 3BG: Dorothy Mary Crowfoot Hodgkin, chemist: corresp and papers 1828-1993 [sic] (NCUACS 47.3.94)

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Making Medicines A brief history of pharmacy and pharmaceuticals

Stuart Anderson (editor), 2005. London: Pharmaceutical Press; pp.318. ISBN 0 85369 597 0. Price £24.95 plus postage (www.pharmpress.com)

The latest release from Pharmaceutical Press is *Making Medicines,* edited by Dr Stuart Anderson, and it will undoubtedly become the jewel in the crown of publications from the British Society for the History of Pharmacy.

Broadly speaking, the achievement of this book is to bring together the various texts and commentaries about the history of pharmacy that have appeared over the past 200 years into a modern single reference. What also makes this book interesting is that its style and presentation is in keeping with the shift in focus of the pharmacist's role from the compounding of medicines to the provision of information and advice.

The many and varied facets of pharmacy could be likened to the multiple facets of a sparkling jewel. Each surface is independent but it contributes to the brilliance of the whole and that is why pharmacy and its rich history are so precious.

Most previous historians have tried single-handedly to trace the history of pharmacy with varying degrees of success, but the fifteen chapters of *Making Medicines* are written by fourteen contemporary experts, the majority of whom are eminent pharmacists themselves. Their essays have been skilfully melded by the editor into a very readable and authoritative volume that enables the reader to understand the evolution of the practice and discipline of the profession of pharmacy.

This is the text that those involved in teaching pharmacy students will welcome, and it should also provide an inspiration for other national pharmacy history bodies to emulate.

Whilst the story of the history of pharmacy and its relationship with the history of medicine is traced mainly through the British experience, one cannot escape the fact that Britain has had a major influence on the progress of pharmacy throughout the world. Perhaps more could have been made of this, as Australian or even American pharmacy practice did not evolve in vacuo.

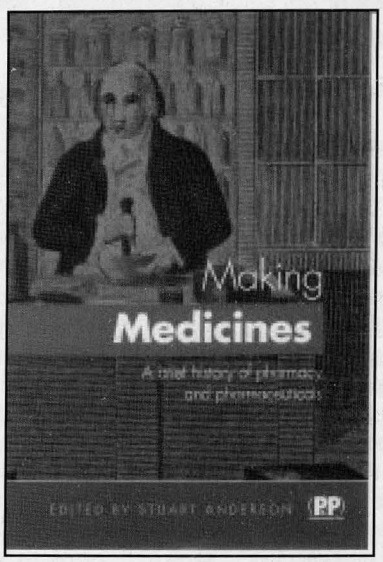
In Australia we have also had eminent scientific and pharmaceutical greats such as Sir Howard Florey and his part in the Penicillin discovery, or Dr William McBride's discovery of the dangers of thalidomide to unborn children. (This was however the same William McBride who was later accused of scientific fraud and professionally humiliated!)

The book has just over 300 pages and is well indexed. It contains many photographs, some from rare archival sources, as well as an excellent selection of colour plates, which add variety and interest to the story.

The editor has prefaced each chapter with a neat summary of its contents to stimulate the reader's interest, just as if he was presenting a well crafted speech. Each chapter is followed by a very comprehensive list of references to provide easy access to further reading if so desired.

The narrative flows smoothly and the grouping of the chapters enables the reader to quickly locate subject matter of particular interest from the Contents pages. Throughout, *Making Medicines* is an enjoyable read, but it also offers some interesting challenges, the most memorable being in the final chapter entitled 'The Apothecary's Return? A brief look at pharmacy's future.'

It was written by David Taylor, Professor of Pharmaceutical and Public Health Policy at the School of Pharmacy, University of London. In his essay Professor Taylor looks critically at the future for pharmacy in the light of national and social care developments based on his reviews of the current literature on the structure and evolution of pharmacy in Britain, as well as other countries in Europe and in North America.



I could also assure him that the story is the same in Australia, where we have embraced Pharmaceutical Care as a national standard for practice, as well as other changes in a pharmacist's role. The thorny question of compulsory continuing education for pharmacists to maintain their registration, is also an issue in this country. We too are under constant scrutiny by the national government to justify costs, and whilst the terminology may be slightly different, the principles are the same.

Every young pharmacist should read and re-read this chapter in order to fully understand how much of the future is in their own hands. But it is the whole story that's important and *Making Medicines* could be likened to a Fodor's Guide to Pharmacy!

Whether the reader is in the seventh age or a new entrant to the profession, the question remains. "If we don't know where we have been, how do we know where we are going"? (Answer: read "Making Medicines" !)

Geoff Miller

Geoff Miller is a retired Community Pharmacist and Secretary of the Australian Academy of the History of Pharmacy

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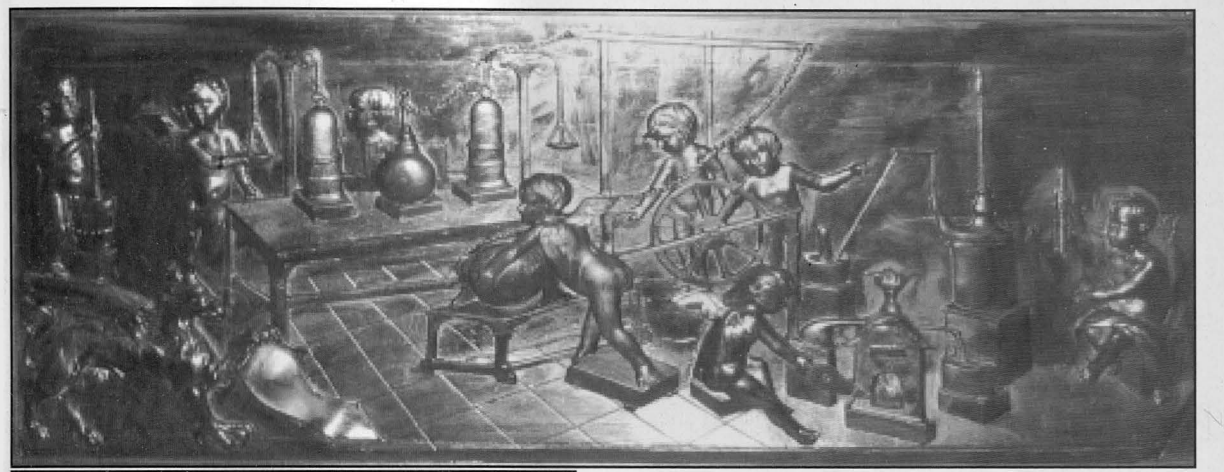

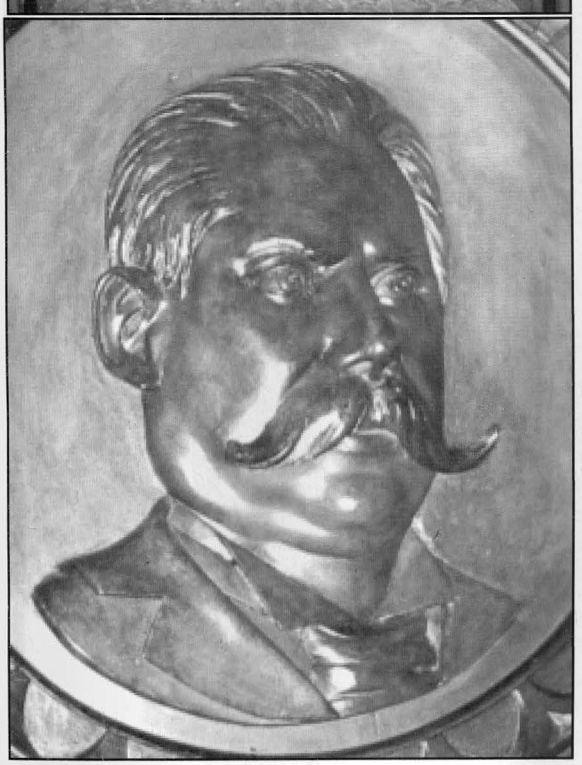

More illustrations of carvings from the Mazzolini pharmacy (see pp. 2 and back cover).

Above, Carved panel on the sale counter showing chemical activities and, presumably, the process of electrophoresis.

Left, Carved panel of the front door showing cherubs doing chemical work.

Below left, Carved portrait of Ermogaste Mazzolini, original owner of the pharmacy.

Below, The sale room, with a partial view of the carved panels on the ceiling.

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University of Bath Department of Pharmacy and Pharmacology: Centenary 2007

The Department is planning events to celebrate the centenary of of its opening as the Bath and West College of Pharmacy in 1906. It moved to Bristol in 1927, becoming part of the Merchant Venturers College, then the College of Technology, Ashley Down.

It returned to the new Bath University of Technology in the 1960s. Anyone with knowledge, anecdotes, pictures or historical items from this period to contribute to the celebrations is asked to contact Dr Steve Moss at prsshm@bath.ac.uk

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Birkbeck College

Medicinal plants study week: Monday 12–Friday 16 June 2006, 10.30am–4.30pm: 5 meetings £200 (no concessions)

An exploration of written and illustrated material on medicinal plants from the first century AD to the present day, in libraries and archives in London. It is hoped to include visits to the herbaria/libraries at Kew and the Natural History Museum, the Wellcome Institute, the Linnean Society and the Society of Apothecaries. There will also be visits to herb gardens, with practical plant identification sessions, and talks on the history of plant names and illustration. This will be of special interest to practitioners using plants, as well as those keen to appreciate more about the history of botany and medicine.

Information from: Letta Jones, MA, Birkbeck College, FCE, 32 Tavistock Square, London WC1

Course FFEO020UACS CE; Non credit-bearing

Tuesday 14th March 2006

12th Poynter Lecture:

'Remedies from our natural flora: piecing together an under-rated tradition' by Dr David E Allen

6.30pm at Eleanor Davies-Colley Lecture Theatre, Royal College of Surgeons of England, 35-43 Lincoln's Inn Fields, London WC2A 3PE. Drinks in the Hunterian Museum from 5.30pm. Tickets £12.00/£6.00 (full time students) from Poynter Lecture Bookings, Hunterian Museum at the Royal College of Surgeons, 35-43 Lincoln's Inn Fields, London WC2A 3PE. Tel. 020 7869 6560 / Email museums@rcseng.ac.uk

MA in the History and Philosophy of Science and Medicine

Durham University is now accepting applications for its one-year Masters degree in the History and Philosophy of Science and Medicine. The program is taught by an internationally recognized faculty and instruction is given in a tutorial setting. An upper second bachelors degree (in natural science, social science or the arts) is required. Space is limited and early application is recommended. More Information can be found at:

http://www.dur.ac.uk/hpsm.ma/

Questions may be addressed directly to Dr Matthew D Eddy at M.D.Eddy@durham.ac.uk

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Farmacia Mazzolini-Giuseppucci at Fabriano, Italy

The museum of the historical Farmacia Mazzolini-Giuseppucci was officially opened on 29th October 2005 at Corso della Repubblica 33/A, Fabriano, Italy..

The pharmacy has recently been restored by its owner Vito Giuseppucci. The creation of the museum and the restoration have made a real treasure of art and history available to the town and to Europe.

The participants in the inaugural ceremony had the opportunity to attend a presentation prepared by Patrizia Catellani and Renzo Console. These two members of the BSHP have studied the containers and the carvings of the new museum.

The carvings on the furniture and ceiling of the pharmacy show the symbols of the new therapeutics and the faces or busts of the researchers who opened the way to the therapeutic use of antibiotics, vaccination, anaesthesia, electricity, X rays. They are: Franklin, Lavoisier, Davy, Avogadro, Cannizzaro, Berthollet, Orfila, Hofmann, Faraday, Röntgen, Cantani, Lenard, Albertoni, Campani, Orosi, Plevani, Prota-Giurleo, Ratti, Vitali, Piutti, Piria and Purgotti. The busts of three additional scientists have recently been found during the restoration work: they are those of Volta, Selmi and Regnault.

A book containing the results of this research and a study on the relationships between these scientists is being printed. It can be obtained from from Museo della Farmacia Mazzolini-Giuseppucci, *mazzolini.giuseppucci @gmail.com* See article p. 2 and previous page.

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Vol. 36 No.2
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British Society for the History of Pharmacy
840 Melton Road, Thurmaston, LEICESTER LE4 8BN

Founded 1967

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British Society for the History of Pharmacy

840 Melton Road, Thurmaston, Leicester, LE4 8BN
Tel: 0116 264 0083, Fax: 0116 264 0141, Email: bshp@associactionenterprises.com
Website: www.bshp.org

The British Society for the History of Pharmacy was formed in 1967 under the aegis of the Pharmaceutical Society of Great Britain, having originated from its History of Pharmacy Committee.

BSHP seeks to act as a focus for the development of all areas of the history of Pharmacy, from the works of the ancient apothecary to today's ever changing role of the community, hospital, wholesale or industrial pharmacist.

Aims

Promotion of historical studies related to pharmacy.
Advancement of knowledge and propagation of understanding of the history of pharmacy.
Publication of the research work of pharmaceutical historians.
Preservation of pharmaceutical artefacts and historic pharmacies.
Support for the work of relevant museums and offering advice on establishment of other pharmaceutical exhibits and on the preservation of pharmacies.
Co-operation with related professions and local historians on medico-pharmaceutical topics of mutual interest.

Pharmaceutical Historian

The *Pharmaceutical Historian* has been published since 1967, at first intermittently, but on a regular quarterly basis from 1972.

An index for the years 1967-1995 was published in 1998. An index for 1996-2000 was published with the December 2000 issue. Issues generally comprise 16 pages and cover.

Papers, short communications and letters in English on any aspect of the history of pharmacy are welcome and should be sent to the address above or by email to *bshpeditor@associationhq.org.uk*

Any illustrations are converted to monochrome for printing. Further details of requirements can be found on the website *www.bshp.org* under Publications.

Membership

Membership costs £20.00 per annum and includes:

Four issues of the *Pharmaceutical Historian*.

Regular meetings, with guest speakers, usually in November, February and May. (Many meetings are College of Pharmacy Practice accredited for post-graduate education requirement.)

Visits to places of historic interest, museums, collections, botanical gardens, etc.

Annual Conference, usually in March/April.

Free use of Royal Pharmaceutical Society of Great Britain's library facilities for research.

Help in historical research and with the identification of artefacts.

Affiliation to the International Society for the History of Pharmacy (ISHP).

Affiliation to the British Society for the History of Medicine (BSHM).

Application forms are available from the Honorary Secretary at the address above or on *www.bshp.org*

Presidents of the British Society for the History of Pharmacy

1967	Mr James C Bloomfield
1968, 1969	Mr Leslie Matthews
1970, 1971, 1972	Dr Melvin Earles
1973	Dr T Douglas Whittet
1974, 1975	Dr John K Crellin
1976, 1977	Dr Juanita Burnby
1978, 1979	Miss D Ann Hutton
1980, 1981	Mr Albert Wright
1982, 1983	Dr William E Court
1984, 1985	Mr A G Mervyn Madge
1986, 1987, 1988	Mr John E Steane
1989, 1990	Dr Melvin Earles
1991, 1992	Mr William A Jackson
1993, 1994	Dr David B Jack
1995, 1996	Mr Anthony C Morson
1997, 1998	Dr John A Hunt
1999	Mrs Enid Lucas-Smith
2000, 2001	Dr Peter M Worling
2002, 2003, 2004	Dr Stuart Anderson
2005, 2006	Dr Shirley Ellis

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PHARMACEUTICAL HISTORIAN

Editor: Ainley Wade, BPharm, MPhil, FRPharmS
840 Melton Road, Thurmaston, LEICESTER LE4 8BN

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Diary

Wednesday 21 June 2006
Joint Meeting with the Society of Apothecaries
2.30 pm at Museum RPSGB
Guided tour of the Museum followed by a light buffet. Cost £15.00; bookings to Secretary.

Wednesday 20 September 2006
'Women in the Army Medical Services since the English Civil War' by Capt. Peter Starling. Lambeth 6.30 p.m.

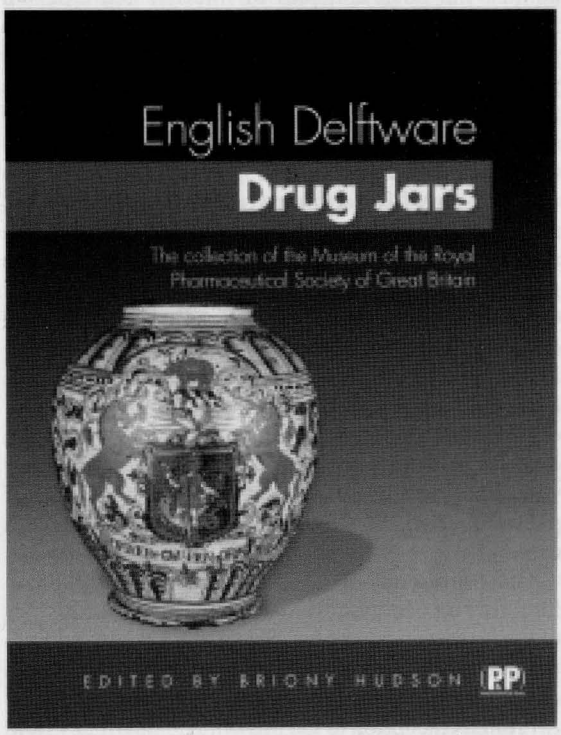
Wednesday 15 November 2006
'The History of Syphilis and its Treatments' by Kevin Brown. Lambeth 6.30 p.m.

Future dates 2007 (to be confirmed)
14 February; 9 May; 26 September; 14 November.

BSHP Committee

The officers for 2006-7 have been re-elected: President Dr Shirley Ellis; Vice President Dr Michael H Jepson; Treasurer Roger Mills; Immediate Past President Dr Stuart Anderson; Honorary Secretary Peter Homan.

The remaining committee members are Miss DA Hutton, Miss Ann Felton, Ms B Hudson, Mr CG Murray, Dr AE Theobald, Mr A Wade and Dr PM Worling.



English Delftware Drug Jars: *The collection of the Museum of the Royal Pharmaceutical Society of Great Britain.*
Edited by Briony Hudson, Keeper of the Museum Collections at the Royal Pharmaceutical Society of Great Britain, the book has just been published by the Pharmaceutical Press.

The Museum of the Royal Pharmaceutical Society holds one of the finest collections of delftware drug jars in the UK and this fully illustrated book contains the first ever comprehensive survey and catalogue of the collection of English delftware drug jars held in the Museum. It also includes details of tin-glazed barbers' bowls, pill tiles and posset pots.
ISBN 0 85369 643 8; 246 x 189 mm; 272 pp. £95.00/ $150.00.
Available from the Library, RPSGB or from www.pharmpress.com

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The Pursuit of Legitimacy and Professionalism: The evolution of pharmacy in Ontario

Jennifer D. Beales and Zubin Austin

Leslie Dan Faculty of Pharmacy, University of Toronto, Canada

This paper explores the development of pharmacy practice in Ontario, Canada and outlines its initial professionalisation and the landscape in which the profession has evolved: reshaping and redefining itself against the push and pull of internal and external forces that have situated it amongst the health care professions, but also differentiated it from medical practices. In their pursuit to propel pharmacy from a trade to a profession, early Ontario pharmacists simultaneously embedded pharmacy within the history of Canadian health care.

The history of health care in Canada is a dynamic story that details Canadians' plight in attaining health as we know it today. The success of this story can be gauged by the superior level of health that many Canadians have come to take for granted. This level of health could not have been attained without the assistance of health care providers who disseminate health and medical knowledge to the public. The story of Canadian health care is also an account of the evolution of health care providers, and this story would be incomplete without discussing the role of pharmacy, and its place within the history of health care.

The profession of pharmacy has been muted in literature on professions in general, and in the history of health care in particular. This paper seeks to address this oversight by providing an examination of the development of pharmacy practice in Ontario.

From its inception to the present, the pharmacy field has experienced both internal and external pressures to its legitimacy (and status) in Canadian professional society. Internal debates stem from the apparent contradiction between pharmacy's mandates[1] and the nature of the profession as a business activity. Similarly, the quest for external legitimacy and relevance to modern health care means that pharmacy practice is constantly shaped by social, political, and economic factors – all of which dictate the precarious position of pharmacy in Canadian fields.

This paper explores these fundamental conflicts, as I discuss the origins of Ontario pharmacy, and outline its initial professionalisation, and the landscape in which the *professional project*[2] has evolved — reshaping and redefining itself against the push and pull of internal and external forces[3] that have situated it amongst the health care professions, but also differentiated it from medical practices.

This continual professionalisation is attributed to a number of factors: on the one hand, social, economic and political environments have changed over time and influenced the role of pharmacy in Canadian society. On the other hand, pharmacy's close relationship with medicine has meant an interconnected association in business activities that has been fundamental (at times detrimental) to the pharmacy profession. The forthcoming discussion of pharmacy's evolution in Ontario demonstrates how these forces have helped shape the profession, and clarifies pharmacy's previous struggles to both attain and retain social legitimacy, and how this challenge is still relevant in present Canadian society.

The Pharmacy profession in Canada: the pursuit of legitimacy and role in society

Pharmacy in Canada has been heavily influenced by European and American tradition, although the European practice seems to have been more influential on the development of the early profession.[4] The origins of pharmacy practice can be traced back to before the Middle Ages when individuals collected roots and herbs to create healing remedies. Canadian history reveals that native aboriginals were using aromatics, spices, and medicinal plants for therapeutic purposes. A famous example is the curing of Cartier's men of scurvy (winter 1535-36). They were treated by the Iroquois of Stadacona with a conifer tea of high vitamin C content (probably eastern white cedar).[5]

Historical literature reveals that pharmacy practice evolved under the influence of the church.[6] In remote rural areas the clergy were often required to take care of people in poor health. In many instances, clergymen were the only individuals who were permitted to dispense drugs.[7] Thus, rudimentary pharmacy was practised by priests and nuns,[8] and this role eventually extended their duties to that of lay physicians.[9]

Before the passage of the first Pharmacy Act (1871) the landscape of pharmacy practice was scattered with early practitioners who identified themselves as *pepperers*,[10] *spicers*,[11] *grocers*,[12] *apothecaries*, *chemists* and *druggists*. Despite variation in titles, little difference could be seen in these individuals' livelihoods; early practitioners shared a common expertise in the compounding and dispensing of drugs and remedies.

Pepperers, Spicers, Grocers, and the challenge by Apothecaries

Throughout the Medieval era (1000-1454), early forms of professionalisation took root, as various guilds attempted to secure their monopolies on articles for trade. These early pharmacists often fought amongst themselves, trying to demarcate their specialties and prevent others from encroaching upon their seemingly exclusive trade territories.

European history captures the evolution of early pharmacy practitioners best, telling a story of the amalgamation of various guilds who traded similar wares. Historical records indicate that pepperers, and later, spicers and grocers were originally branches of the same guild that dealt in items of trade known as

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spicery. 'This term embraced not only spices, crude drugs and prepared medicines, but also a host of other commodities such as sugar, alum and dried fruit'.[13] Grocers were challenged by a fraternity known as the Apothecaries, who established themselves as specialists in drugs.[14] In Europe, the apothecary's origins can be dated as far back as the early 1200s, although Canada's first apothecary was not referenced until 1610.[15]

Interestingly, dating back to before 1236, physicians and apothecaries were found in the same guild. As individual trades began to specialise, this association fragmented into separate guilds, under which the apothecaries (or spicers) were to have held a monopoly over 200 different items. The true beginnings of the apothecary shop and early drug store can be seen here, as these apothecaries traded a variety of wares such as books, wax candles, and for the 'right price' they would conduct funerals.[16] This persona, as a 'jack-of-all-trades', carried through to the 1800s where it was not surprising to find the apothecary conducting a church service or performing minor surgery.[17]

In this way, the apothecary's work began to resemble that of a physician. Needless to say, this caused discontent among the medical community. Physicians claimed that apothecaries were uneducated and untrained, whereas the apothecaries claimed that physicians were careless and charged too much.

Without any doubt, apothecaries practising medicine trespassed on territory not belonging to them. Yet, they had gradually gained a large number of clients who depended on them, and they had proved themselves useful in their medical role in a time of need.[18]

This was especially true during times of plague[19] where apothecaries gained increased respect due to their 'courageous dedication' in caring for the diseased. When physicians had either fled the cities or had succumbed to plague, apothecaries 'forsook' their shops and tended to those who were suffering.[20]

For poorer classes of citizens, apothecaries became attractive, alternative health practitioners because they charged less for their services than physicians.[21] Apothecaries also attracted sceptics of medical practitioners, who claimed that they could cure any possible problem in the human body. Thus, as time passed, the role of the apothecary paralleled medical practice and became less confined to compounding and dispensing drugs.[22]

Technological advancement brings chemists and druggists forward

Meanwhile, as apothecaries were devoting more time to medical practice, great progress was being made in science and technology. Developments in chemistry saw new drugs being compounded, and a new breed of early pharmacist appeared – the Chemist and Druggist. Although encroaching upon the apothecary's territory, Bell (1880) argues it was the abhorrent notion of pharmacy as a trade that induced apothecaries to aspire to medical practice as a profession, and chemists and druggists opened shops to fill the gap left behind by the apothecaries.

In Europe, by the late 1800s apothecaries were recognised by many Colleges of Physicians as superior medical attendants, and were accordingly designated General Practitioners of Medicine. As a result, chemists and druggists continued to specialise in drugs and later become 'pharmacien'.[23] By contrast, in Canada, the apothecary was less likely to become a medical practitioner. Literature does not call into question why the trajectory of European and Canadian apothecaries differed,[24] but some may argue that Canadian apothecaries' potentially less rigorous origins dictated their streaming into certain practices that diverged from their European counterparts.

As there were no laws or legislation regarding pharmacy practice prior to Confederation, the early Ontario pharmacist could have been one of four types of people: an apothecary who was trained by apprenticeship; an individual who had qualifications from another country; an altogether unqualified quack who put up a sign that read 'open for business'; or, a properly qualified doctor who dispensed drugs in a shop.[25]

Typically, the nineteenth-century Canadian apothecary was a white upper-to-middle class male[26] who was educated to some degree,[27] and had established himself socially within the community.

> [H]e dispensed prescriptions, was a part-time physician, clergyman and politician. He worked 16 hours a day for $10 a week, and had to compound 90% of his prescriptions.[28]

By the early 1800s most apothecary shops/drugstores were stocked with a variety of wares — medicinal agents used in the compounding of prescriptions were only a fraction of the items found in the early store.[29] [30] Apothecary shop windows were often decorated with ornate window dressings to attract passing pedestrians. Those who entered the shop would find a welcoming environment that doubled as a community gathering place. Long countertops with chairs provided customers with a place to wait while their prescriptions were being compounded.[31] Often patrons would sit and talk amongst themselves, while the woodstove crackled in the background, or people could browse the displays that were stocked with every possible commodity.[32] Numerous items graced the store windows, shelves, and countertops, so that something was bound to catch an unassuming customer's eye.

One of Canada's most famous apothecaries, although not remembered for practising pharmacy per se, was William Lyon MacKenzie. 'The MacKenzie's Drug and Books Store' opened its doors in Dundas, Ontario in 1823. The shop sold a variety of items such as dry goods, hardware, groceries, drugs and medicines, glassware, fancy goods, oils and paints, teas, stationery, and crockery. As a result of this

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diversified stock,

> ...the early pharmacy, or the drug and book store as many were called, looked much like a general store. The dispensary was just a section of the store and it was surrounded by sundries.'[33]

This example foretells the role of contemporary drugstores in Canadian society.[34]

Here we see the origins of the awkward reconciliation between business behaviour and the profession of pharmacy. This calls into question whether business behaviour can be associated with professional conduct, since typically, professionals are expected to bestow a certain extent of public interest ahead of private gain. If business behaviour is motivated out of private interest, can a pharmacist be a true professional? This is especially critical when

> connection with a product, as in the case of pharmacy, made professional claims less acceptable ... Apothecaries viewed the selling of nostrums as detrimental to the public and to the image of the calling, but necessary to 'make it' in business.[35]

Nineteenth-century progress in science and technology influenced a growth in drug manufacturing firms. Many chemists and druggists either worked for or opened their own drug wholesale/manufacturing companies, as this proved to be a lucrative area of the nascent profession. Alongside technological advancement, this very industry posed a threat to pharmacists' skills and knowledge, as machines were being used to compound and dispense drugs in mass quantities, thus challenging the pharmacists' professional purpose. Moreover, this posed a threat to the training of apprentices: as fewer basic ingredients for compounding were made in the shop, apprentices gained less and less experience in this sort of in-house manufacturing. The prospects of a future where poorly trained apprentices would become preceptors and pass along their ignorance presented the elite with a quandary: how to maintain professional progress as the vocation abandoned a critical part of its claim of expertise.[36]

The precarious relationship between the drug manufacturers/pharmaceutical companies and the professional 'calling' would only become more pronounced in the twentieth-century.[37]

As business behaviour remained embedded within pharmacy practice, the pharmacist necessarily relied on alternative means of demonstrating their professionalism and social legitimacy. As a result, we start to see the reshaping and redefining of pharmacy's professional project, as pharmacists attempted to negotiate and retain their position among the professions.[38]

Challenge to legitimacy and status in face of the medical profession

In addition to conflicted claims of internal legitimacy and status based on professional standards, a further challenge facing pharmacy practice was the conflicted relationship shared with the medical profession. This external pressure would initiate political battles in Canada, and eventually provided impetus to gain more widespread support for differentiation between the two professional fields.

During the nineteenth century, the medical profession remained dominant within the professional division of labour.[39] The role of pharmacist and medical doctor too closely overlapped in areas regarding compounding, independent assignment, and dispensing of drugs. Unfortunately, an ambiguity in practising patterns among physicians, apothecaries, chemists and druggists was due to the fact that medical legislation in the late 1700s and early 1800s typically focused on the physician and not the pharmacist/apothecary. Prior to Confederation the Medical Board of Upper Canada controlled all forms of practice in the medical field. Accordingly, pharmacy practice was governed under medical acts, but relatively little supervision or control was imposed upon pharmacists.[40] In 1859 the Upper Canada Legislature passed the *Poison Act*, to regulate the sale of 'deadly poisons,' which provided that no chemist or druggist could sell poisons of any sort unless presented with certification issued by a physician, magistrate or minister, indicating that the patron could be in the possession of such remedies that could be found deadly. In this way, the work of pharmacists would not be fully controlled by physicians, but it would be reliant upon the prescribing work of physicians.[41]

> In occupational terms, pharmacists saw themselves as subservient to physicians. The craft of pharmacy, in which they professed special skill and knowledge, was a division of the department of medicine.[42]

The *Poison Act* assisted in regulating the dispensing of drugs in Ontario. However, it did not include a provision for *who* could practise pharmacy. Thus, doctors retained their ability to dispense drugs alongside apothecaries, chemists and druggists. The result was to fuel the continuing battle for power between pharmacy and the more dominant and socially legitimate medical profession.[43] This was exacerbated by the existing tensions between the two professional groups, such that physicians asserted that these early pharmacists were unqualified, unskilled, and encroaching on their territory of diagnosing and prescribing. At the same time, pharmacists claimed that physicians dispensed unnecessary drugs for ailments that did not exist.[44]

A few months prior to Confederation (1867), tensions continued to mount between the medical and pharmaceutical communities, as physicians wanted to see pharmacy practice regulated. It was proposed that all practising pharmacists would have to pass examinations taken before a medical board. This uncertain future proposed for pharmacy practice in Canada prompted a chemist, Edward Shuttleworth (1842-1934), to create a unified voice among practising pharmacists. Founding the *Toronto*

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Chemists' and Druggists' Association in 1867, he and 18 other pharmacists established a local association that would raise pharmacy 'from the level of a trade to that of a profession',[45] thereby increasing the independence and the social legitimacy of the profession.[46] Specifically, in order to protect their livelihoods, their practice required clearly defined professional boundaries that would ensure their skills could not be acquired by physicians, and would safeguard their profession from encroachment by other professionalising occupations.[47]

Seeking federal pharmacy legislation fashioned after the 1868 Pharmacy Act of Great Britain,[48] Edward Shuttleworth believed that a national voice would be both useful and necessary to demonstrate support of any proposed legislation. Four months later, the *Toronto Chemists' and Druggists' Association* disbanded, to become *The Canadian Pharmaceutical Society*.

The Canadian Pharmaceutical Society had the aim to advance the profession through the advancement of science, to define the precise position of an apothecary and establish his relations towards physicians and the public, to establish a board of examiners, and to restrict as much as possible the dispensing of medicines by any except those qualified by such Board.[49]

By the end of 1867, the Society had recruited 55 members. Although national in scope the majority were druggists and chemists from Ontario. In 1868, their quest to see federal legislation passed was repealed, and so the Society attempted to see legislation applied at the provincial level. Legislation would protect the public and ensure occupational security.[50] Finally, Bill No. 20 went through three readings and was granted assent on 15 February 1871. With their success politically, *The Canadian Pharmaceutical Society* witnessed the inauguration of the first Pharmacy Act of Ontario, which made possible the creation of the first College of Pharmacy, one step on the way to building legitimacy for the practice of pharmacy.

In reality, pharmacists would still have to contend with medical dominance. Yet, they had made the first stride in securing a niche for themselves in Canadian professional fields, and ensuring that their skills would not be enveloped by doctors or other professionalising occupations. This would mark the beginning of pharmacy's *professional project*, launched in an effort to secure the rights and status of the pharmacy profession. The passage of the Pharmacy Act of 1871 legally recognised pharmacists' rights and promoted standardised licensing[51] and educational programmes.

The formation of professional associations helped create a sense of solidarity among early pharmacists. With the founding of *The Canadian Pharmaceutical Society* in 1867, Edward Shuttleworth believed that intercommunication among Canadian pharmacists would have to be improved in order to generate momentum in legislative arenas. To this point, the *Canadian Pharmaceutical Journal* was launched by Shuttleworth, to allow for thoughtful discourse among pharmacy counterparts. Within two months, membership in the Canadian Pharmaceutical Society had climbed to 118 members and the journal had brought practising pharmacists across Canada closer. Not only did the journal provide a forum for pharmacists across Canada to voice their concerns, but it also doubled as an educational tool used to train apprentices and pharmacists across the country.

Little would these founding pharmacists realise that this professional project would see many transformations throughout history, as it would be shaped over time by social, economic, and political change throughout the remainder of the nineteenth and into centuries beyond. Finally, the conflicted legitimacy had been met, and pharmacists had devised a means to promote their own positioning, as a professional field, in the face of much contest on the part of other professional bodies.

Looking to the future of pharmacy's professional project

Few academics would contest pharmacy's role within the Canadian health care system. Yet, few scholars have chosen to examine the evolution of pharmacy practice within the history of health care. Pharmacists' future role of providing pharmaceutical care[52] to ensure optimal health outcomes for patients alongside a team of medical providers is tentative at best. However, with educational programmes and private-party initiatives, pharmacy *will* continue to specialise in drug knowledge.

This paper sets the foundation for understanding how pharmacy fits into the history of health care, as it situates itself among professional fields in Canada. It is uncertain as to what exact role pharmacy will hold in the future of Canada's health care system. However, pharmacy practice and policy continue to evolve in response to both internal and external challenges to the field's legitimacy and individuality.

Pharmacy has had many obstacles to overcome (and perhaps some remain) in pursuit of social legitimacy: a close relationship with the dominant medical profession; a business mentality that taints the professional image; and a rise in industrialisation and technological advancement that has largely taken over dispensing and compounding responsibilities.

By examining the history of the professionalisation of pharmacy, we can better understand the underlying factors in its evolution, and why it continues to redefine its professional purpose. The field of pharmacy continues to professionalise in order to demonstrate its social legitimacy among the public (as a valuable member of a patient-centred health care team), and to maintain its position relative to other health care professions.

The challenge ahead is two-fold: first, pharmacy

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practitioners must continue to build a consistent and pervasive message of competence, authority, and longevity; second, with internal morality and external legitimacy being constantly called into question, leaders in the field of pharmacy might consider the lessons of the pepperers, spicers, and apothecaries when contemplating the future profession: how it will take shape within the Canadian marketplace, and alongside the changing health needs of Canadians is something that can only be predicted as history unfolds.

Acknowledgement

The authors wish to thank Dr. Michael Bliss for reviewing this manuscript, and providing some thoughts on the history of pharmacy.

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Dr Zubin Austin BScPhm, MBA, MIS, PhD (same address).
e-mail: zubin.austin@utoronto.ca

Endnotes and References

1. Such mandates include: the compounding and dispensing of drugs; the adoption of clinical duties that provide a level of service that focus on drug therapy in addition to drug distribution; the implementation of pharmaceutical care (PC) strategies that focus on *the patient* rather than *the product*.

2. Similar to the term professionalisation, *professional projects* entail the achievement of power and control over an occupation by determining what skills are valuable, and capitalising on them. Traditionally, in the history of professions, men initiate and define tasks that serve to preserve their best interest within their given field (Witz, Anne. *Professions and Patriarchy*. New York: Routledge, 1992: 5).

3. Pharmacy's quest for social legitimacy is hindered by the business mentality of the profession, as well as its close relationship with the medical profession. Externally, the profession, much like every other profession, is influenced by social, economic and political change.

4. The author of this paper has attempted to provide a detailed account of the early landscape of pharmacy in Ontario; however, due to limited accounts of this period, this section is seemingly Euro-centric.

5. Historica: Aboriginal Healing. In Canadian Encyclopaedia On-line. [On-line]. *The Canadian Encyclopaedia*. [4 Paragraphs]. Available: http://www.thecanadianencyclopedia.com [Plants, Native Uses/Medicinal Plants] Paragraph 3 [November 30, 2003].

6. Kremers, E, and Urdang, G. *History of Pharmacy*. London: J.B. Lippincott Company, 1951.

7. Wilkinson, Ron: Pharmacy 1867-1967. *Drug Merch* 1967; July, 48(7): 3-15.

8. A review of literature reveals that '[t]hree Sisters with basic qualifications as nurses but also possessing some basic knowledge of compounding and dispensing, were among those who founded the Hotel-Dieu in Quebec in 1639' (Patterson, G.R: Educators win tough battles for pharmacy. *Drug Merch* 1967; July, 48(7): 21-27, 41-42, p. 21).

9. Reference 6, p. 45.

10. During the Middle Ages, the English trade in drugs was largely in the hands of the guild of *Pepperers* (Reference 6: 137) who were primarily wholesale merchants and shippers (Reference 13: 297).

11. During the 1300s the *Pepperers* amalgamated with the *Spicers*, who were concerned with retail sales and the compounding of medicines (Reference 13: 297; Reference 6).

12. During the 1400s a body known as the *Grocers* evolved separate to the *Spicers*, and dealt more in drugs for medicinal use than spices (Reference 6: 137).

13. Culp-Pierce, Patricia: The society of apothecaries: A transition from lowly craftsmen to qualified medical practitioners. *Can Pharm J* 1974; 25: 296-300.

14. Apothecaries sold a wide variety of goods, but dealt mainly in medicines, and regarded other items such as castile soap, sponges, wines, cotton, wood, pots from Geneva, leather bags, cloth, banners, and silver spoons as sidelines (Reference 13: 297).

15. Louis Hébert, son of the apothecary to Queen Catherine de Medici of France, was Canada's first known apothecary. In 1610 he sailed to what is now Quebec City, and is remembered as having provided free medical care to the settlers. He 'played many significant roles in the life of the community not the least of which was caring for the health of the white man and Indian alike'. (Reference 40: 3).

16. Refer:ence 6: 68-70.

17. Reference 7: 7.

18. Reference 6: 140.

19. Literature documents apothecaries' valuable assistance during plagues in Europe (1665-6) and America (1793) (Reference 6). 'Their service during this calamity played a considerable part in the transfer of the apothecaries from pharmacy to medicine.' (Reference 13: 298).

20. Reference 6: 234; Reference 13: 298.

21. Wallis, Patrick: The first English histories of pharmacy: their origins and influences. *Pharmacy in History* 2000; 42(1/2): 36-47.

22. In this instance, it is interesting to note that the apothecary seems somewhat of an 'irregular' physician; although there is no direct reference to apothecaries practising eclectic medicine during the 1800s, perhaps the closest account would be in likening the *Apothecary* to the *Thomsonian* root doctor of this time.

23. Reference 6: 84.

24. The investigation of the differences between European and Canadian apothecary practice warrants further investigation, but is beyond the scope of this paper.

25. (Reference 7: 4; Reference 40: 70).

26. Readings on nineteenth-century professions typically discuss the '*professional gentlemen*' (Gidney, R.D. and W.P.J Millar. *Professional Gentlemen; The Professions in Nineteenth-Century Ontario*. Toronto: University of Toronto Press, 1994). Literature on pharmacy practice tends to focus on the male practitioner. Although a token number of women practised pharmacy during this time, the exclusion of women from early pharmacy literature is likely attributed to vague documentation on women in pharmacy, prior to confederation (Stieb, E., Coulas, G., Ferguson, J. Women in Ontario pharmacy, 1867-1927. *Pharmacy in History* 1986; 28(3): 125-135: 125). Those women who did practise pharmacy likely worked for their husbands or fathers who owned their own drug stores. Accordingly, women in pharmacy did not encounter the obstacles faced by women in other traditionally male-dominated health professions (ibid.).

27. The early pharmacist of Lower Canada was usually a self-educated man, learning from experience (through a period of apprenticeship) as well as from readings from textbooks in chemistry and botany, to which they might have had access (DesRoches, B.P. The first 100 years of pharmacy in Ontario. *Can Pharm J* 1972 (July); 23: 225-228, p. 226).

28. Reference 7: 3.

29. The nineteenth-century pharmacist had a serious dilemma regarding how much stock they required for their shop, as 'drugs, tinctures and ointments were imported from Europe. So, with the

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almost primitive and slow transportation services compared with today, [the pharmacist] had to stock up in September to carry him through the winter' (Reference 7: 5-6).

30. As early as 1796, F.W.A. Hirst's apothecary store in Niagara, Ontario advertised products, presumably from Europe, such as Aloes, Antim. Tartar, Cera Flav., Calomel, Cantharides, Tinctures, Hooper's Pills, *etc*. (Reference 40: 71).

31. Literature suggests that apothecaries were the first early pharmacists to receive prescriptions from physicians. This marked the early beginnings of the awkward association that pharmacists and physicians would have, as the pharmacists livelihoods were in part governed by the physicians' prescribing patterns. '[D]octors would send patients to the shop, asking for a percentage from the sale of drugs sold to the patient ... if the apothecary refused then the doctor could send the patient elsewhere' (Reference 7: 6).

32. Reference 6: 201; Ibid.

33. Reference 7: 4-5; Reference 40: 71.

34. Pharmacists of the 1920s and early 1930s were still responsible for a large proportion of their compounding; however, the pharmacy doubled as an ice-cream parlour – a place where people could go for a sundae, frappé, or soda. These would have been equally as important to their livelihood as the compounding of prescriptions. Therefore, a pharmacy apprentice during this era would have been trained to distinguish between the various cold beverages and frozen treats, different kinds of gramophone needles, and how to appropriately dress shop windows with holiday novelties (Reference 7, pp. 6-7). The early 1900s also saw a love-affair between pharmacy and photofinishing – as pharmacists had the technical skills to be able to handle photo developing chemicals. Accordingly, pharmacists who owned Kodak Dealerships were one step ahead of others who simply worked with prescriptions and drug compounding (Cameron, Donald. *The History of Pharmacy in Alberta: The First One Hundred Years*. Edmonton: D.W. Friesen and Sons, 1993: 202-204).

35. Higby, G. Professionalism and the nineteenth-century American pharmacist. *Pharmacy in History* 1986; 28(3): 115-124, p.118.

36. Reference 35: 119.

37. Drug companies (at the prospect of having a lack of graduates to assist with future research) would assist with 'upgrading the profession' by providing scholarships and vocational guidance to promote pharmaceutical research (Matthews, A.W. History of pharmacy: The initial impact. *Can Pharm J* 1984; December: 578-583, p. 578). Accordingly, most of the curriculum in schools of pharmacy became tailored to pharmaceutical research and explains why 'much of the pharmacy curriculum consists of molecular science, and why professors of pharmaceutical science spend so much time in the laboratory, rarely making the connection with practice and rarely teaching the broader context of health and the health-care system' (Muzzin, Linda, Patricia Sinnott and Claudia Lai. Pawns between patriarchies: Women in Canadian pharmacy. In *Challenging Professions: Historical and Contemporary Perspectives on Women's Professional Work*. Elizabeth Smyth, Sandra Acker, Paula Bourne, and Alison Prentice (eds). Toronto: University of Toronto Press, 1999: 296-314, pp. 307-308).

38. Dominant professions, such as law and medicine, are clearly established, and have secured professional boundaries to prevent other occupations from encroaching upon their skills and services (Mesler, M.A. Boundary encroachment and task delegation: clinical pharmacists on the medical team. *Sociol Health Illn* 1991; 13(3): 310-331).

39. Kronus, C.L. The evolution of occupational power. *Sociol Work Occup* 1976; 3(1): 3-37; Schepers, R. Pharmacists and medical doctors in nineteenth-century Belgium. *Sociol Health Illn* 1988; 10(1): 68-90.

40. Canadian Pharmaceutical Association. *A Brief History of Pharmacy in Canada*. Ottawa: Canadian Pharmaceutical Association, 1967: 71.

41. Reference 39, *Sociol Health Illn:* 86

42. Reference 35: 118.

43. Reference 40: 71-72.

44. Ibid.

45. Stieb, E. Edward Buckingham Shuttleworth 1842-1934. *Pharmacy in History* 1970; 12(3): 91-113, p. 94.

46. The 'threat of engulfment by medicine *sic* forced Canadian pharmacists to press for recognition through organisation, under circumstances similar to those that had also brought into being the first permanent organisations of pharmacists in Great Britain a quarter century earlier and in the United States two decades earlier still' (Stieb, E. Organization. In *One Hundred Years of Pharmacy in Canada*. Toronto: Canadian Academy of the History of Pharmacy, 1969: 11-15, p. 11).

47. Reference 38.

48. Greatest influences upon the evolution of Canadian organisations of pharmacy, as upon Canadian pharmacy itself, have come from Great Britain, the mother country, and to a lesser extent the United States (Reference 46: 12).

49. Reference 45: 96.

50. Clark, R.J: Professional aspirations and the limits of occupational autonomy: The case of pharmacy in nineteenth-century Ontario. *Bull Can Hist Med* 1991; 8: 43-63, p. 48.

51. '[R]egistration as "chemist and druggist" was granted to those who were in practice at the time of the passage of the Pharmacy Act, or had served a three-year term of apprenticeship and one year as assistant prior to the measure. All others [who did not fall into these categories] were required to pass an examination set by the Ontario College of Pharmacists' (Reference 27: 226).

52. Hepler and Strand (Opportunities and responsibilities in pharmaceutical care. *Am J Hosp Pharm* 1990; 47: 533-543) identify pharmaceutical care (PC) as a movement that encourages that pharmacists, on top of clinical care duties, (to) strive for a level of patient care that will achieve a greater quality of life 'outcome' for the patient, which is based on the premise of 'identification', 'rectification', and 'prevention' of drug-interaction problems. In an effort to advance and protect the profession, these skills constitute a thrust and link to professionalisation.

The Many Aspects of Chlorodyne

Part 1: The Years 1846–1884[1]

Dr Henri C Silberman

Geneva

My interest in chlorodyne was triggered by a notice which appeared in the *Pharmaceutical Journal* in 1865.[2] It ran as follows:

> **Alleged Death from Chlorodyne**. At an inquest held at Shipton Sollars, Gloucestershire, before J. Lovegrove, Esq., coroner, on the body of an old woman who had taken ten drops of 'Dr. Collis Browne's Chlorodyne', and who was found dead a few hours afterwards, Mr A.W. Gabb, surgeon, who was acquainted with the deceased and had prescribed for her, made the following statement: He knew the history of the case, and was well acquainted with 'Dr. Collis Browne's Chlorodyne'. He had not used it now for some time, because its effects on different constitutions appeared so uncertain. He had known fifteen drops to prove almost fatal. He did not know the composition of the medicine, but chloroform formed a prominent ingredient. Such a medicine ought not to be sold indiscriminately – except under medical

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advice. Being a sticky medicine it was difficult to drop, and he invariably used a minim glass for the purpose. He had given twenty-five drops in a dose, but that was by gradually increasing it. The cause of death in this case was the chlorodyne deceased took. A verdict in accordance was returned.

When the above notice appeared in the *Pharmaceutical Journal* chlorodyne was already a popular medicine although developed only eight years earlier.

In 1864 another notice appeared on a poisoning by a chloroformic anodyne.[3] The notice started as follows: 'A case of poisoning by a new remedy, called chloroformic anodyne' and ended with 'The chief ingredients of the chloroformic anodyne are said to be a strong solution of opium, some chloroform, and a few drops of hydrocyanic acid.' The notice does not identify the anodyne. It does not say whether the anodyne in question was chlorodyne or not. But the remedy might well have been chlorodyne.

In 1864 the combination of chloroform, an alkaloid and hydrocyanic acid mentioned in the notice above was called a 'new remedy'.

The *Oxford English Dictionary* cites earliest appearances of words in English writings. For chlorodyne it cites the prolific letter-writer Jane Welsh Carlyle (1801–1866) for having used as early as in 1863 the following sentence: 'I have been thinking of realising some chlorodyne.'

Similar accidental poisonings as the two mentioned above regularly made the news. Certainly unintended by the manufacturer of the proprietary medicine Chlorodyne were intentional poisonings and the ingestion of Chlorodyne in order to commit suicide.

One report among several similar ones about such a suicide is the one from *The Times* of January 23, 1880. Described in the report is an inquiry at St. Pancras Coroner's Court. Part of the newspaper article about the inquiry is worth citing.

> The coroner and jury had considerable discussion as to the facilities for obtaining poisons, especially those contained in quack medicines. The jurors were of opinion that the most stringent measures ought to be enforced to prevent the sale of poisons in the shape of patent medicines and that at all events it should be made compulsory that a label should be affixed there to bearing the word "poison" as was compelled to be done in regard to the sale of laudanum and other poisons'.[4]

Laudanum is a tincture of opium.

Opium was known to the English medical profession from the seventeenth century. After the 1830s, opium assumed a crucial therapeutic role in English medicine. By the 1840s, opium had become one of the most important staples of English therapeutics. It was prepared in powder, in pills, or in liquid.

Morphia was isolated from opium by Friedrich Sertürner in 1806 and was commercially available in Britain from the 1820s. It did not come into widespread use though until the 1860s.[5]

There was much debate, not only in newspapers but also in scientific gatherings, at the end of the 19th century about patent medicines, about the handling of poisons by pharmacists, about the proper labelling of medicines and about the responsibility of physicians towards the sick persons they treated.[6]

This led to the 1868 Poisons and Pharmacy Act. According to this law, substances which included opium or morphium could be sold to anybody, in any amount, so long as the containers in which they were dispensed were labelled 'Poison'.[5]

This law was mostly ignored with impunity. Violations of the 1868 Act were widespread. In 1892, though, the Pharmaceutical Society prosecuted the manufacturer of 'Collis Browne's' chlorodyne for selling his product in violation of the Poisons and Pharmacy Act of 1868.

Patent medicines such as chlorodyne were sold for a long time by grocers, drapers, barbers, chandlers, confectioners, hairdressers, herbalists, ironmongers, stationers, tailors, tobacconists, toy dealers, wine merchants, even by booksellers, and of course by chemists', often without warning about their dangers, and often in bottles that were not labelled 'Poison'.

What actually was chlorodyne?

Chlorodyne was a secret or patent medicine.[7] There were several chlorodynes on the market. According to the *Oxford English Dictionary,*[8] Chlorodyne is a drug, popular as a narcotic and anodyne, composed of chloroform, morphia, tincture of Indian hemp, prussic acid, and other substances. But there exist other definitions. According to a German source, for instance, chlorodyne contained chloroform, atropine and morphine.[9]

It is normal for the composition of proprietary medicines even from a same manufacturer to vary from time to time. In the case of chlorodyne which was prepared by several different pharmacists, we are dealing not with one single chlorodyne but with several of different compositions.

The best-known chlorodyne was the one sold by the pharmacist Davenport. That was the J. Collis Browne's Mixture which was first prepared about 1846 by a physician with the Army Medical Staff, Dr John Collis Browne (1819-1884). John Collis Browne was a true Victorian, being born within three weeks of his future sovereign.

While stationed in India, and while there was an outbreak of cholera, Dr. Browne composed around 1846 the medicine by which he is remembered. He named it at first Chlorydyne in 1855.

Dr Browne was a man with many interests, talents and activities. He entered in a partnership with a family alliance, the above-mentioned chemist John Thistlewood Davenport of 33, Great Russell Street, Bloomsbury, London. This partnership was formed in 1856.[10]

The Figure below shows a wrapped bottle of Dr J. Collis Browne's Chlorodyne drops as sold in the late 19th century.

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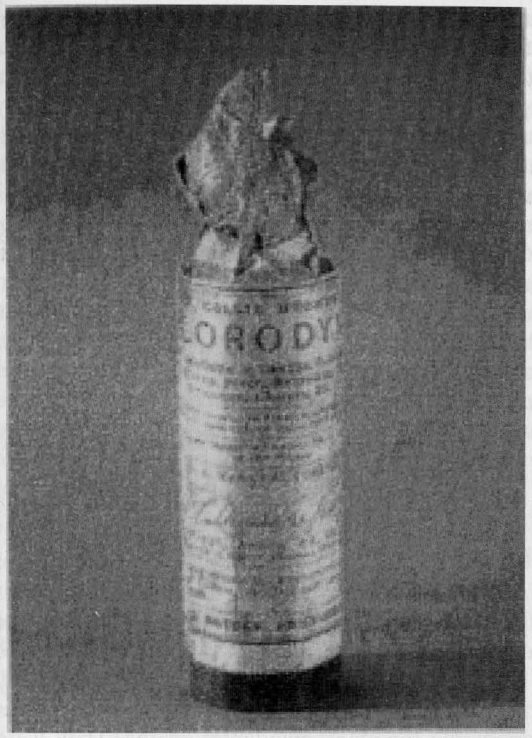

An article in the *Pharmaceutical Journal* of 1863 by Groves is an indication of how well-known Chlorodyne had already become by that year. Indeed, the article starts with this sentence: 'I presume, from the frequency of its use, that Chlorodyne is at least a convenient preparation'.[11]

The time between 1855 when chlorodyne was first commercialised and 1863, when Groves noticed the frequency of its use in the *Pharmaceutical Journal* is only 8 years.

As usual with many patent medicines, Dr J. Collis Browne's medicine was heavily advertised as a cure for just about everything: coughs, colds, asthma, bronchitis, consumption, diphtheria, croup, ague, cholera, diarrhoea, dysentery, neuralgia, gout, cancer, toothache, rheumatism, epilepsy, spasms, palpitations and hysteria. The enumeration shows the principal illnesses from which people were suffering at that time.

The physician Barnard S. Procter published in 1866 seven prescriptions containing Chlorodyne with directions for use to illustrate the various ways in which Chlorodyne was recommended.[12]

In four prescriptions Procter specified that it was Collis Brown's Chlorodyne which had to be employed. For instance:

Rx Chlorodyne ℥i
(Collis Brown's)
Sign. 15 drops to be taken in water occasionally

Rx Spir Ammon. Co. ℥ss
Bismuth. trisnitr ℥ii
Chlorodyne (Collis Browns's) ℥ii
Naphthae Medic ℥iii
Oxymel Scillae ℥i
Decoct. Senegae ad ℥viii
A tablespoon to be taken when the cough is troublesome.

The pharmacist Davenport had several rivals who also sold their chlorodyne to his great displeasure. There was for instance a Mr. Thomas Barling.[13]

This pharmacist declared defiantly in a letter written on April 6, 1866

> the name chlorodyne has been decided to be one in which no one has a property; and I not only do not identify mine with Brown's, but calling it my own, I distinctly profess that it is not the article advertised under his name. I have then clearly as much right to call a thing "Chlorodyne" as "Essence of Peppermint", and I do not feel at all inclined to debar myself of such right, and as long as I do not identify it or say what it is good for, I do not see that your prosecution will be very hurtful; indeed a little unjust prosecution would tend to give my article notoriety.[14]

Barling's reasonings may sound strange nowadays. It sounds like quackery. The fine line between ordinary domestic medicine and pharmaceutical quackery was indeed the subject of much discussion at that time.[15,16]

Another rival to Davenport was the pharmacist Richard Freeman of 70, Kensington Park Road in London. Freeman pretended that *he* had invented the 'original and only true chlorodyne.' Freeman lost in court in 1864 against rival Davenport. This condemnation of Freeman was promptly used by Davenport, who included into his advertisements that 'The defendant Freeman was deliberately untrue and Freeman regretted it.'

There was also Dr Odgen's formula for chlorodyne which was printed in the *Chemist and Druggist* of January 14, 1860.[17,18] This is the formula:

Chloroformyli	f℥vj
Ether. Chlor.	f℥j
Tinct. Capsici	f℥ss
Olei Menth. Pip.	gr.ij
Morphiae Hydrochlor.	gr.viij
Acid. Hydrocyanici (Sch.)	gr.xij
Acid. Perchlorici	gr.xx
Tinct. Canab. Indicae	f℥i
Theriacae	f℥j

Theriac, the last ingredient in this list, has in this context the meaning of treacle or syrup.

Other competitive plagiarised products were Towle's Chlorodyne and Teasdale's Chlorodyne. Almost every chemist in Britain made his own version.

Each ounce contained usually two full grains of morphia and lesser amounts of tincture of cannabis indica and sometimes chloral.

Davenport tried to keep the composition of his mixture and its mode of preparation secret. And he was proud of it. Indeed, in one of his advertisements Davenport stated:

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The Composition of Chlorodyne cannot possibly be discovered by analysis, and since the formula has never been published, it is evident that any statement to the effect that a compound is identical with Dr. Browne's Chlorodyne must be false.

This assertion did not prevent several chemists from attempting to analyse Davenport's Chlorodyne with the means available at that time.[19] Different compositions for chlorodyne were published at different times.

Hahn[20] published in 1879 an analysis for Dr Browne's Chlorodyne which gave the following ingredients in parts:

Concentrated hydrochloric acid 5
Ether, Chloroform, Tinct. Cannabis Indicae, Tinct. Capsici annui, each 10,
Morphii, Acid hydrocyanici, each 2,
Ol. Menth. Piper. 1,
Syrup Sacchari 50,
Tinct. Hyoscyami, Tinct. Aconiti, each 3.

In the same book Hahn provides the composition of other compositions for Chlorodyne. In these analyses the compositions are given in grams. Here is the first one:

Tinct. aromatic.	5g
Tinct. Opii simpl.	4g
Morphin. muriatic.	0.1g
Aq. Amygdalar	10g
Syrup. Liquiritiae	80g
Extr. Liquiritiae	1g
Spirit. vini rss.	40g
O1. Menth. pip.	5 drops
Ether	10 drops
Chloroform	30 drops.

And now the second one:

Tinct. aromatica, Tinct. Opii, Aq. Amygdalar amar., Chloroform, Spiritus, Glycerine, each 10g, Ol. Menth. pip. 5 drops. Dosage: 30-40 drops.

In 1866 Hoyer[21] came up with the following definition and composition of Chlorodyne:

Medication against toothache.

Containing some chloroform, 12 drops hydrocyanic acid, some morphium, 20 drops hydrochloric acid, 2 drops peppermint oil, some ether, Tinct. cannabis, theriac and Tinct. capsicum. Very dangerous!

There were other authors who revealed the compositions of several proprietary medications, among them chlorodynes, with the purpose of unmasking their secret compositions. Medications containing chloroform were very popular in Victorian England.

The listing below gives an idea of the popularity of chlorodynes. The home and export sales of Dr J. Collis Browne's Chlorodyne between 1871 and 1884 were:

1871	£28,415
1872	£32,375
1873	£36,349
1875	£40,431
1879	£35,216
1884	£34,000

Why was chlorodyne so popular and why was it so dangerous?

Chlorodyne was introduced at the right time after internally administered chloroform was already a popular medication in various combinations. An easily accessible, heavily advertised combination containing chloroform, such as chlorodyne, found quick acceptance at a time when specifically acting drugs were not yet discovered.

Chlorodyne furthermore was readily adopted by the medical profession Physicians did not hesitate to prescribe chlorodyne as such or in combination with other ingredients.

As to the dangerous properties of chlorodyne, pharmacists at that time were accustomed to handle dangerous products. The public buying nostrums were desperately searching for relief of pain or for a cure of the many illnesses afflicting people. It was not educated to be cautious.

The main ingredients of chlorodyne

Chloroform, $CHCl_3$, also called trichloromethane, was first prepared in 1831. It was soon profusely used for medicinal applications. In 1853 Queen Victoria agreed to have chloroform during the birth of her eighth child, prince Leopold. Nevertheless, chloroform was responsible for many accidental deaths. They were duly recorded in the daily papers as well as in the scientific literature. Chloroform, the most potent inhalation anesthetic, was soon applied internally too. Chloroform water was a current preparation of pharmacists.

Morphine was another component in many often prescribed formulations. Morphine, touted for its medicinal benefits, was recognised for its dangers, for its deadly side. Addiction (morphinism) and overdose cases were frequent. Taking morphine was also a prime method of Victorian suicide.

Even after the passage of regulatory laws, such as the Pharmacy Act of 1868, doctors had no trouble prescribing large quantities of highly dangerous substances including morphine.

Cannabis (hashish, Indian hemp, marijuana) a frequent ingredient of some chlorodyne formulations is a very ancient drug. The first documented use of hemp as medicine appeared about 2300 B.C.E. Hemp was a popular folk remedy in medieval Europe.

Hydrocyanic acid (prussic acid), that dangerous poison we all know, had its medicinal applications in spite of its dangers. It was a component of many chlorodyne formulations.

Hydrocyanic acid was usually prepared from potassium cyanide or ferrocyanide and sulphuric acid. It was highly considered in chest illnesses and believed to cure light cases of pneumonia. In the *Pharmaceutical Journal* of 1843 R.H. Semple wrote:

Hydrocyanic or prussic acid in a dilute form, although a poison, is a very useful medicine when cautiously administered, and is hence to be found in all chemists' shops.

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This explains also why hydrocyanic acid was incorporated from the start into many chlorodyne formulations.

Not surprisingly people did become addicted to chlorodyne. Addiction of various kinds was spreading insidiously among the affluent, even among royalty. The drug habit was also rampant among the poor who could readily and cheaply purchase patent medicines containing opium and morphine at a variety of shops.

In conclusion chlorodyne was a true Victorian drug. It fitted into the colonial era, the technical advances in chemistry, the spread of diseases, especially among the poor, the heroic handling of dangerous drugs by pharmacists and the careless use of proprietary drugs.

Acknowledgements

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Notes and References

1. This paper was presented at the 37th International Congress for the History of Pharmacy, Edinburgh, 22 -25 June 2005. Part 2 was presented at the BSHP Annual Spring Conference, 30 March-1 April 2006 and will be published in a future issue.
2. Alleged death from Chlorodyne. *Pharm J* 1865; 2nd Ser VI: 39.
3. Poisoning by chloroformic anodyne. *Pharm J* 1864; 2nd Ser V: 186.
4. Inquests. *The Times* Jan.23, 1880; 10.
5. Parssinen, Terry M. *Secret passions, secret remedies: narcotic drugs in British society 1820-1930*. Philadelphia: Institute for the Study of Human Issues, 1983.
6. The report of the committee on the 'Sale of Poisons Bill'. *Pharm J* 1858; XVII: 445-450.
7. Rawlings, F.H. Old Proprietary Medicines. *Pharm Hist* 1986; 26(1): 4-7.
8. *The Oxford English Dictionary*, 2nd edn, Vol. III. Oxford: Oxford University Press, 1989.
9. *Merck Index,* 1910
10. Entract, J. P. 'Chlorodyne' Browne. *London Hosp Gazette* 1970; LXXIII(4): 7-11.
11. Groves, T.B. On syrup of chloroform. *Pharm J* 1864; 2nd ser V: 599 - 601.
12. Proctor, Barnard S. Is Chlorodyne subject to a medicine stamp? *Pharm J* 1866; 2nd ser VII: 385-386.
13. Is Chlorodyne subject to a medicine stamp? *Pharm J* 1866; 2nd ser VII: 508-509.
14. Is Chlorodyne subject to a medicine stamp? *Pharm J* 1866; 2nd ser VII: 578-581.
15. Pharmaceutical quackery. *Pharm J* 1847; VI: 51-55.
16. Secret remedies. *Pharm J* 1858; XVII: 106.
17. Chlorodyne. *Pharm J* 1862; 2nd ser III: 584.
18. Labelling poison preparations. *Chemist Druggist* 1925 (Feb 7); CII: 188.
19. Capaun-Karlowa, C.F. *Medizinische Spezialitäten. Eine Sammlung der meisten bis jetzt bekannten und untersuchten Geheimmittel und Spezialitäten mit Angabe ihrer Zusammensetzung nach bewährtesten Chemikern*. Vienna, 1913.
20. Hahn, Eduard. *Die wichtigsten der bis jetzt bekannten Geheimmittel und Spezialitäten mit Angabe ihrer Zusammensetzung und ihres Wertes*. Berlin, 1879
21. Hoyer, Egb. *Die medizinischen Geheimmittel. Ihr Zweck, ihre Verwerflichkeit und die Mittel zur Beseitigung des damit getriebenen Schwindels. Nebst einer Zusammenstellung der etwa 70 Geheimmittelenthüllungen*. Hannover, 1866.

The Role of Toads and Frogs in Medicine

W. A. Jackson

There are approximately four thousand vertebrates in the class of animals named Amphibia. Of these, toads and frogs make up by far the largest order, known as Anura or Salienta.

A 12th century bestiary divided frogs into aquatic and land species. The latter were said to live in bramble bushes, were larger than the aquatic ones, and were known as toads. The aquatic ones were called green frogs and lived among reeds and little trees. The smallest, which were also the greenest, were said to be voiceless. It was believed that if a dog swallowed a live frog in a lump of food it would not bark afterwards.[1] This classification was still held to some extent in the 15th and 16th centuries.

Many amphibians were used for therapeutic purposes, and toads were used both as medicines and a source of poisons for many hundreds of years.

TOADS

Poison

Toads were generally thought to be poisonous, particularly their saliva and the fluid which they could exude from the skin. They seem to have been used deliberately with murder in mind. In classical Rome live toads would be thrown into a pot of boiling water and the toxins which rose to the surface could be skimmed off.[2]

King John died in October 1216, and there is a tradition that he was poisoned, though the evidence is slender and there is no written account of this until one hundred and fifty years later in 1366. Then it was suggested that a monk named Simon squeezed the juice from a venomous toad into a cup of wine. Although the king probably died from pneumonia or enteritis contracted when he was weakened by dysentery and fever, this demonstrates the strength of the belief at this time that toads were sufficiently poisonous to kill humans.[3]

In the second half of the eighteenth century Gilbert White (1720–1793) the naturalist and clergyman, observed that toads were not noxious to all animals for, to his knowledge, ducks, buzzards, owls, stone-curlews, and snakes ate them with impunity. Additionally he remembered, though he had not witnessed the event personally, a quack eating a toad

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in Selborne to impress the country people.[4]

There is no doubt that toads do produce toxins. Glands in the skin often grouped into wart-like swellings, particularly behind the eyes, produce a milky secretion that can cause nausea, muscular paralysis and slow down respiration. If injected into the blood stream it can increase the contractions of the heart, and even lead to an animal's death.[5] The venom produced contains bufonin, bufogin and bufotalin compounds which have an action similar to digitalis.[6] There appears to be some confusion about the names of toxins produced by toads, other authors mentioning bufotenin and bufotoxin.

Antidotes

Dioscorides, the Greek physician (c.40–c.90 A D), said that the blood of a sea-turtle, when taken with wine, rennet of hare and cummin (sic) was a remedy for 'those who have drunk toad.'[7]

A 17th century remedy to be used as an external application 'For the Poison of a Toad or other Poison' was to stamp (pound) a handful each of plantain and parsley, strain into a little raw cream and mix well before anointing the affected part.[8]

Toad Swallowers

Toad swallowers, toad eaters or toadies were frequently to be seen at fairs in the 17th and 18th centuries. They were usually assistants of an itinerant mountebank or quack. Their role was to swallow live toads, which country folk believed to be poisonous, and be revived by the quack's nostrum, thus demonstrating how effective this was. Sometimes however, as on the occasion that Gilbert White mentioned, the quack himself would swallow a toad to impress the crowd. I imagine that when this was the case, he had no assistant.

Although it is possible that sometimes the toad was not actually swallowed, and the audience deceived by sleight of hand, there are reports of instances where close observation seems to confirm that they were actually swallowed. There can be no doubt that toads do actually produce venoms. The biologist and authority on folk medicine, Dr Andrew Allen, states that the warty skin manufactures hallucinogens and powerful cardiac glycosides. Why then could they be gulped down without these being released? He notes that toads do not normally exude poison when handled by gardeners though they do so when attacked by a predator. If handled gently they could probably be swallowed before this occurred. However, although one might swallow a single small toad without any great danger, anybody consuming one large or several small ones would be taking a serious risk.[9] White mentioned that the toady in Selborne drank oil after swallowing the toad. It seems probable that he would also have taken some before the performance, and this would perhaps have hindered the absorption of any toxins produced.

It is said that the use of the word 'toady' to mean a sycophant is derived from these poorly paid and despised toad-swallowers, but Brewer's *Dictionary of Phrase and Fable* offers an alternative explanation. Proud and lazy Spaniards who employed Moorish servants called them 'mi todita' (my factotum), hence anybody employed in menial work came to be called a 'todita' or 'toad-eater.'[10] Personally, I can seen no reason for the English to adopt this Spanish word, and will continue to believe that it was derived from the quack's humble assistant.

Medicinal Use

The initial use of toads medicinally is said to date from the occasion when powdered toads were given to a hydropic (dropsical) person to speed his death, but who promptly voided a large quantity of urine and recovered from his complaint. After this, toads dried by gentle heat and powdered were administered internally as a diuretic. This powder, when applied to the navel, was also said the restrain haemorrhaging, particularly from the uterus.[11]

Moses Charras noted that the body of the toad, when dried, was useful in treating a number of diseases. It should be suspended by one of its hind legs in an airy place until it died and left until it had dried out completely. It could then be cut into pieces and distilled in an earthenware retort to produce a volatile salt, oil and flegm (sic) that could be separated by rectification, using a matrass with a long neck heated on a sandbath. The complete dried body, held under the armpit, in the hand, behind the ear or hung round the neck was a specific cure for nosebleeds. When placed on the navel it would stop menstrual bleeding, and the powder when applied to buboes, plague sores or venereal 'shankers' (chancres) would draw out the malignity. To treat dropsy the powder could be placed on the kidneys and one scruple to half a drachm taken internally in white wine. If a wax cup was set below the toad to collect the exudates which dripped from it as it dried, and this was mixed with the powder of dried toad it could be used to fashion amulets which were effective in both preventing and curing the plague. Additionally the bone of the left front leg, if held against the tooth, would assuage toothache.[12]

According to Nicolas Lemery (1645–1715), in France the toads were first killed and then washed before being hung up to dry in the sun. When dried in this way one could be held in the patient's hand, placed in the armpit or hung round the neck to staunch nasal bleeding, or placed on the navel to treat haemorrhoids. He confirmed the use of the powder to treat plague and venereal sores and its use internally with the same dose as Charras recommended for dropsy.[13]

The method given by John Quincy for preparing toads was to place them, while still alive, in an earthenware pot, and then dry them in a moderately heated oven until they could be powdered. It is interesting to note that he, with a degree of compassion not normally extended to animals at this time (1749),

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particularly amphibians or reptiles, recommended that they be held in the fumes of burning sulphur to suffocate them first to avoid cruelty.[14]

In 17th century London, Dr George Thomson also believed in the virtues of dried toad to combat the bubonic plague. After dissecting a plague victim, he felt symptoms that led him to think that he had contracted the disease, and placed a dried toad on his chest to draw out the evil humours. When dried and beaten to a powder, it was the substance most commonly worn as a prophylactic amulet against the great plague of London in 1665. It was normally packed in a hollow quill for this purpose[15].

John Allin who had been a parson in Rye, left this position because of the Conformity Act of 1662 and went to London to study medicine. He lived in Southwark, and from his window he could see an open plague pit in which the dead were being buried. In a letter written in August 1665 he noted that many people wore amulets made of 'the poison of the toad'. Unlike Charras and Thomson he did not believe such amulets to be effective as a prophylactic, but, if the wearer did contract the plague a blister would be formed that could be healed by a plaster, and the patient would be saved.[16]

Jan Baptista van Helmont (1579–1664) believed that used both internally and externally the powder of toads could be of use in treating dropsy and smallpox. The *London Pharmacopoeia* of 1696 said that the ashes of a toad hung around the neck as an amulet would cure bed-wetting and incontinence.[17]

A self-help book, *Dr Lower's, and several other Eminent Physicians Receipts,* recommended wearing a bag containing a dried toad at the pit of the stomach to staunch a nose bleed. It also gave instructions for preparing oil of toads, useful for treating gout, King's evil, or any old sore or ulcer. This was made by boiling six toads in salad oil till they were black, straining, and mixing the strained oil with half a pound of beeswax, and pouring into a pipkin when the wax had melted.[18]

In the eighteenth century live toads were used to treat cancerous breasts. An eye-witness account dating from 1776 said that the toad was put in a linen bag, with only its head exposed, and applied to the sore, which it was said to suck greedily. One woman reported to have been cured in this way was said to have toads applied, night and day, for five weeks without intermission to achieve the desired result.[19]

Gilbert White investigated reports of a woman who claimed to cure cancers by the application of toads. Although several intelligent people, 'both gentry and clergy' (presumably there were no intelligent common people or their views were of no importance) believed in her ability to do this, he reached the conclusion that the woman, who had set up as a cancer-doctress was a charlatan. She claimed to have suffered from a virulent cancer herself, but had been advised by a strange gentleman in a church she visited to apply live toads to the cancer, and had been cured by this method. White could not believe that if a gentleman possessing such knowledge had existed, he would not have employed it for his own financial gain or for the benefit of mankind in general.[20]

Black Magic

To curse a person, a large toad was baptised with the name and surname of the victim, and made to swallow a consecrated host over which the formulae of execration had been pronounced. It was then bound with some of the victim's hairs on which the operator had spat and buried under his threshold, or in a place which he would cross daily.[21]

Toadstone

Charras wrote:

> Some Authors attribute all the vertues (sic) of a Toad to a Stone, or Bone, which is sometimes found in the head of those Animals, which are large and old, and is call'd a Toad-Stone.[22]

This was a stone reputedly to be found in the heads of old toads, and was known by various names; borax, stelon, crepaudia, batrachyte and batrachos. They were frequently set in rings, and would warn the wearer of the proximity of poison by changing colour and sweating. It was claimed that touching a wound caused by the bite of a venomous creature would stop the pain and swelling caused by this. One mounted in a silver ring dating from the fifteenth century is in the Londesborough Collection. One writer said that they always had a figure resembling a toad on their surface.[23]

FROGS

Poison

Many species of frog are eaten, the hind legs being considered a delicacy. However, some species do produce toxins, and in South America these were used to poison arrowheads. Batrachotoxin obtained from *Phyllobates terribilis* and *Phyllobates aurotaenia* is a very potent one which acts by affecting neuro-transmission. An account from the 1820s said that when the poison was required the frog had a pointed stick pushed down its throat, emerging from one of its legs. A white froth exudes from the skin, particularly on the back, and this was the most powerful secretion which would retain its potency for a year. Afterwards a yellow oil was produced, and this was effective for four to six months.[24] Another account says that the frog was impaled on a stick and then slowly roasted over an open fire to stimulate the production of the toxin. It was said that handling these frogs with bare hands could prove to be fatal.[25]

Medicinal Uses

Heracleides (c. 388–315 B.C.) believed that a frog boiled with sea holly would counteract poisons[26] and Dioscorides thought that a broth of frogs in salt and oil would counteract the venom of all serpents.[27]

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Another self-help book, *The Skilful Physician* published in 1656, offered the following receipt for the cure of the falling sickness (epilepsy):

> Also cut a Frog through the midst of the back with a knife, and take the liver, and fold it in a Colewort leaf, and burn it in a new earthen pot wel (sic) stopped, and give the ashes thereof unto the Patient in his sickness to drink with good Wine, and if he be not healed at once, do so by another Frog or more, and without all doubt it wil (sic) heal him'.[28]

This receipt was also given in *Pharmacopeia Bateana,* first published in 1688, with a note that some people said that it was useful in treating quartan agues.[29]

Moses Charras believed that if frogs were cut into pieces and distilled in a glass cucurbit placed in a bain-marie the liquid produced was useful for relieving pains of the kidneys, ureters and bladder. The ashes produced by burning them in an earthenware pot could be used to staunch bleeding by strewing them on wounds, or putting them in the nostrils, or as an ingredient in medicines to promote the growth of hair. They could also be given internally to cure gonorrhoea.[30]

William Salmon, although unqualified, was a clever man who owned a considerable collection of medical books, and made an excellent living from the sale of his quack remedies and a number of books which he had published. He considered that frogs had many therapeutic uses. If a living one was held against a carbuncle or plague sore until it died, it would draw out the poison, a process that should be repeated until the frog remained alive. They could also be applied to treat gout and erysipelas. One held in the hand would cure fevers, and if it was laid on the stomach of somebody with colic, it would draw the disease from the patient into itself. A broth made from them was good for toothache, and the gall could be used to inhibit the regrowth of hair after it had been plucked out, and to cure sore eyes. If the frog's heart was applied to the patient's spine, heart or stomach it was a remedy for fever or ague, and when the liver was dried and powdered it would cure fevers and the falling sickness. The fat would help pain and deafness when dropped into the ears. The ashes of whole frogs could be used to stop bleeding, and when mixed with tar to cure baldness.[31] Salmon also observed that the flesh of frogs was good for coughs and for those who were 'hectick' (suffering from pulmonary tuberculosis). Holding a live frog in the hand would lower the temperature in a fever, and the liver, tied up in the skin of a crane and worn as an amulet, acted as an aphrodisiac. The blood could also be used as a 'philtron' (love philtre), and, when burnt, the ashes of frogs could be used to stop bleeding. He added that water and land frogs (i.e. frogs and toads) had the same virtues (sic).[32]

Richard Wiseman, who was Serjeant Chirurgeon to King Charles II, used preparations made from frogs to treat patients. One of his remedies for a cancer was an electuary among whose ingredients were powdered frogs, prepared snails and powdered crayfish. He used oil of frogs, made by baking them with butter in their mouths, as an application to restrict the growth of a tumour.[33] This treatment was resurrected towards the end of the nineteenth century by Messrs Keene and Ashwell of London, who produced oil of frogs by crushing and boiling them in oil, to be used as an external application for cancer.[34]

In the 17th century, Shakespeare's son-in-law, Dr John Hall recommended a diet containing frogs, snails and crayfish for Mary Wilson, who was suffering from a 'hectick feaver'[35], Nicholas Culpeper believed that the dried liver of a frog was useful in treating quartan agues,[36] and the notorious quack doctor Simon Forman used little green frogs simmered in water to relieve the pain of extracting teeth, and a lye of their ashes for baldness.[37]

Folk Medicine

One traveller's tale that we must take with a pinch of salt was published in 1672 by John Josselyn who had travelled to New England (America) in 1663. In his booklet *New Englands Rarities Discovered* he reported that he had been told by the Indians (native Americans) that 'up in the Country there are Pond Frogs as big as a child of one year old.' This does seem to be improbable, but there could be some truth in the claims of their therapeutic value. They were said to be very fat, and that this fat was 'excellent for Burns and Scaldings, to take out the Fire, and heal them, leaving no Scar; and is also very good to take away Inflammation'.[38]

In a Shropshire cure for whooping cough, parents would pass a child over and under a briar bush seven times, and then draw three yards of black ribbon through a frog's body and hang it round the child's neck. With this length of ribbon, there must have been a danger of death from strangulation. Another method was to make a live frog breathe into the child's mouth, and this was also used to treat thrush, the frog being held in the mouth until it died (presumably from asphyxiation). In 1898 it was reported that one boy had 'worn out' four frogs' used in this way, after which he died of convulsions.[39] A variation of this 'cure' was recorded by the Victorian naturalist, Frank Buckland, in his notes to *The Natural History and Antiquities of Selborne*, in which a mother gave her child a (presumably living) half-grown frog to suck,[40] and 'in the North of Lincolnshire the sore mouth with which babies are often troubled is called the 'frog'.[41]

One way of curing sore eyes in Aberdeenshire was to catch a live frog, and lick its eyes. Having done this, one had only to lick any diseased eye to effect a cure.[42] A Sussex remedy for tuberculosis was to swallow live frogs, and this was still used in the late 19th/early 20th century.[43]

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Frog Spawn

Charras wrote that although the heart, liver, gall, fat and other parts of frogs had particular virtues, it was the frog spawn, gathered in March at the full moon that was most esteemed. Distilled in a bain-marie between lukewarm and boiling, the distillate could be given internally for vomiting, loss of blood, and internal inflammations; and applied outwardly it would cure redness of the face and kill the itch 'occasion'd by sharp acid Salt humours'.[44]

Salmon also considered frog spawn to be very useful. It was cooling, segnotick (sic)[45] and anodyne. It killed the itch, tettars (sic)[46] and ringworm, and helped burns, scalds, inflammation, erysipelas, red faces and the gout, as well as stopping the flux of the haemorrhoids, terms (menses), whites (leucorrhoea) and gonorrhoea.

The water produced from the distillation of live frogs taken at the beginning of April had all the virtues of frog spawn. To distil frogs or their spawn, they should be suspended in a linen cloth in the middle of the still and distilled using the steam from the water in the bottom of it or the resulting product would have an objectionable smell, or would 'stink' as Salmon expressed it. This would cure red faces and skin defects, erysipelas, gangreens (sic) and ulcers in the bladder. The powder of frogs or their spawn was useful in treating gonorrhoea, malignant ulcers and all inflammations and gangreens (sic).[47]

Wiseman used frog spawn and frog spawn water in combination with other substances to treat a scirrhus (a tumour that is hard to the touch), and in Summer cloths dipped in the water could be used as well as the oil of frogs for a cancer, being changed as often as they became dry. This was not recommended for Winter use owing to the danger of the patient catching cold.[48]

John Hall used small rolls of cloth, known as tents, that had been dipped in frog spawn several times in March and allowed to dry, after which they could be stored. He inserted them in the nostrils of Thomas Roberts of Stratford-upon-Avon whose nose had been bleeding violently at intervals for four hours. These helped to stop the bleeding.[49] He applied a fomentation of frog spawn water to the gouty joints of Sir John Packinton (or Pakington) to reduce the inflammation.[50] Another of his patients, Mrs Richardson, was suffering from 'Wind in the Womb, . . . Scurvy, swooning, Pain of the Head, over-flowing of her Courses (menorrhagia), also abundance of Whites' (leucorrhoea). As part of his treatment he prescribed a water which contained, amongst other things, frog spawn water to stop the flux.[51]

If frog spawn was buried for three months in an earthenware pot covered with a slate, when it was retrieved it was said to resemble clear water, and this could be used to cure chronic rheumatism by rubbing it into the painful areas.[52] Dr Andrew Allen relates how a gentleman named Eleazer Albin used a mixture of cobwebs and frog spawn, beaten together on a pewter plate and allowed to dry, as an application for wounds, and he claimed that he had used this to stop a nosebleed of several hours duration which two surgeons had been unable cure.[53]

Towards the end of the 18th century Dr Motherby noted: 'The spawn of frogs was formerly used for cooling, but now is wholly neglected'.[54]

The Role of Frogs in Medicine Today

Caerulin is a toxin that has been discovered in the skin of the green tree frog in Australia, and is now being synthesised, and used internationally to relax the bile duct.[55]

It was reported in *Manchester Metronews* in October 2005 that a research centre had been set up at Manchester University to investigate wound healing and tissue regeneration. This project, which is to run for at least 25 years, is led by Professor Enrique Amiya who will work with Professor Gus McGrouther, a leading plastic surgeon, and Professor Mark Ferguson, who works in tissue engineering. Professor Amiya believes that his work with frog embryos could revolutionise treatment for amputees and lead to a future without scars. His work will focus on wound healing and tissue regeneration in frog embryos, which share the human embryo's ability to heal wounds in a matter of hours without leaving scars. Frogs also have the power to regenerate tissue including tails and limbs, and the genetic and cell biological mechanisms are essentially the same as in humans. This project is partially funded by The Healing Foundation, a national charity that funds research into disfiguring conditions, and envisages a future where wounds will heal without leaving scars, and there could be a possibility of the partial, or even complete, regeneration of limbs.[56]

Conclusion

At first glance, it may occasion surprise that these animals should figure so prominently in the history of medicine and toxicology. Probably the main reason is that they were common and could be caught with little difficulty. This hypothesis is supported by the extensive use of creatures such as earthworms, snails, woodlice and spiders in orthodox medicine up to the 18th century and in folk medicine well into the second half of the 20th century. Many people consider the toad to be an ugly creature, and of course glands in the warty skin do exude toxins, so it is not surprising that it was thought to be a good source of poisons for so long.

Toads are to be seen in a number of paintings by the Dutch artist Hieronymus Bosch (Jeroen Anthoniszoon van Aken, c.1450–1516). In the right hand panel of the triptych 'The Garden of Earthly Delights', now in the Prado in Madrid, there is a young woman reclining against the Devil's chair. A toad, at the time considered to be a sign of the Devil and witchcraft, clings to her chest, and its venom has induced a state

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of lethargy so that she pays no attention to the spindly arms of a fiend clutching her naked body.[57] Also in the Prado is a table top painted by Bosch depicting 'The Seven Deadly Sins'. In one corner of this there is a circle containing a vision of hell, and in this a glutton is forced to live on a diet of toads and serpents, and a naked female clutches her throat while a massive toad covers her genital area.[58]

Traditionally, there has been a strong belief that the more unpleasant a medicine was, the greater its therapeutic value, so the introduction of slimy frogs into the mouth or the need to lick their eyes was understandable.

The renewed interest in these animals for therapeutic purposes is not without parallel. The use of maggots to cleanse wounds of necrotic tissue, and anticoagulants derived from the saliva of leeches in cardiology are instances which spring readily to mind. Maybe in time to come somebody will consider it worthwhile to investigate the constituents of the slime produced by slugs and snails, and discover some modern therapy for pulmonary complaints and conditions of the eye based on this. Only time will tell.

End Notes and References

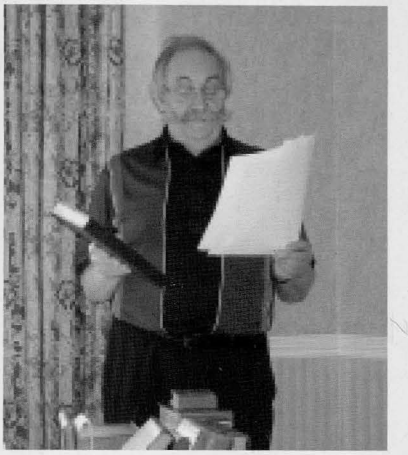
1. *The Book of Beasts.* A 12th century Latin bestiary translated and edited by T.H. White. New York: G P Putnam's Sons, 1954: 217.
2. Allen, A. *A Dictionary of Sussex Folk Medicine.* Newbury, Berks: Countryside Books, 1995: 158.
3. Thompson, C.J.S. *Mysteries of History.* London: Faber and Gwyer, 1928: 30–31.
4. White, G. *Natural History and Antiquities of Selborne.* London: Macmillan and Co., 1875: 54. (Originally published in 1789)
5. Matthews, L.H. *The British Amphibia and Reptiles.* London: Methuen and Co. Ltd, 1952: 16.
6. Turkington, C. *Poisons and Antidotes.* New York: Facts on File, 1994: 288.
7. Watson, G., *Theriac and Mithridatium.* London: The Wellcome Medical Historical Library, 1966: 32.
8. Balaban, D., Erlen, J., and Siderits, R. (eds). *The Skilful Physician.* Amsterdam: Harwood Academic Publishers, 1997: 133. (First published in 1656 by T. Maxey, London).
9. Allen, A. Reference 2: 157–160.
10. Brewer, E.C. *The Dictionary of Phrase and Fable.* New York: Avenel Books: p. 1232. (First published in 1870.)
11. Lewis. *The New Edinburgh Dispensatory.* Edinburgh: Elliott and London: Robinson, part II, 1786: 108.
12. Charras, M. *The Royal Pharmacopoea, Galenical and Chymical*, 1678, Faithfully Englished, London, Printed for John Starkey and Moses Pitt, part III: 105-106.
13. Lemery, N. *Pharmacopée Universelle*, 2nd edition. Avignon: Jean Delorme, part II, 1716: 121.
14. Quincy, J. *Pharmacopoeia Officinalis & Extemporanea: Or, A Compleat English Dispensatory*, 12th edition. London: Longman, 1749, book I: [9].
15. Bell, W.G. *The Great Plague in London*, Belinda Hollyer (ed.). London: The Folio Society, 2001. This is an abridgement of the revised edition of The Great Plague in London in 1665, published in 1951 by John Lane The Bodley Head: 98.
16. Ibid.: 154.
17. Fernie W.T. *Animal Simples.* Bristol: John Wright and Co.; London: Simpkin, Marshall, Hamilton 1899: 484–485.
18. Chetwynd-Stapleton, M. (ed.). *Take the ashes of a swallow.* Oxford: Zero Publications: 15–16, first published in 1702 as *Dr. Lower's Receipts*, London: John Nutt.
19. Fernie, W.T. Reference 17: 485–487.
20. White, G. Reference 4: 59–60.
21. Fernie W.T. Reference 17: 485.
22. Charras, M. Reference 12, part III: 106.
23. Brewer, E.C. Reference 10: 1232–1233.
24. Mann, J. *Murder, magic and medicine*, 2nd edition. Oxford: Oxford University Press, 2000: 40–41.
25. Turkington, C. Reference 6: 26–28. This lists a number of poisonous frogs.
26. Watson, G. Reference 7: 19.
27. Ibid.: 31.
28. Balaban, D., Erlen, J. and Siderits, R. Reference 8: 156.
29. Salmon, W. *Pharmacopoeia Bateana: Or, Bates's Dispensatory*, translated from the last edition of the Latin copy by W Salmon, 4th edition. London, 1713, William Innys, book II: 638.
30. Charras, M. Reference 12, part III: 106.
31. Salmon, W. *Pharmacopoeia Londinensis , Or, The New London Dispensatory.* London: Thomas Dawks, 1678, book II: 243–244.
32. Ibid.: 217.
33. Wiseman, R. *Several Chirurgical Treatises*, 2nd edn. London: Printed by R. Norton and F. Maycock for R. Royston and B. Took, 1686: 102–103.
34. Fernie, W.T. Reference 17: 192.
35. Lane, J. with medical commentary by Earles, M. *John Hall and his patients.* Stratford-upon-Avon: The Shakespeare Birthplace Trust, 1996: 38.
36. Culpeper, N. *Pharmacopoeia Londinensis or the London Dispensatory.* London: A and J Churchill, 1695: 48–49.
37. Cook, J. *Dr. Simon Forman.* London: Chatto and Windus, 2001: 54.
38. Josselyn, J. *New Englands Rarities Discovered: In Birds, Beasts, Fishes, Serpents and Plants of that Country.* London: G. Widdowes, 1672. Facsimile reprint published in 1926, Berlin: W. Junk: 38.
39. Smith, F.B. *The People's Health 1830–1910.* London: Croom Helm, 1979: 110.
40. Buckland, F. In White, G. *Natural History and Antiquities of Selborne*, 1875. Reference 4: 358.
41. Fernie, W.T. Reference 17: 191.
42. Ibid.: 192.
43. Allen, A. Reference 2: 76–77.
44. Charras, M. Reference 12, part III: 106–107.
45. Segnotic – erroneous form of 'stegnotic' – adapted to arrest the flow of diarrhoea, flow of blood, or other discharges, astringent, styptic. *Oxford English Dictionary,* CD-ROM version 2, Oxford University Press, 1999.
46. Tetter – a general term for skin eruptions.
47. Salmon, W. *Pharmacopoeia Londinensis.* Reference 31, book II: 243–244.
48. Wiseman, R. Reference 33: 103.
49. Lane, J. and Earles, M. Reference 35: 120–121.
50. Ibid.: 158–159.
51. Ibid.: 225.
52. Fernie, W.T. Reference 17: 192.
53. Allen, A. Reference 2: 36–37.
54. Motherby, G.A. *New Medical Dictionary.* London: J. Johnson, 1775, unpaginated, see 'Rana'.
55. Low, T. *Bush Medicine.* London: Harper Collins, 1990: 125.
56. *Manchester Metronews*, City Edition. October 14th, 2005: 1–2.
57. Beagle, P.S. *The Garden of Earthly Delights.* London: Pan Books, 1982: 112.
58. Ibid.: 120.

https://dx.doi.org/10.24355/dbbs.084-201801291346

Speakers at the BSHP Annual Spring Conference, Bath 31 March-2 April 2006

Amy Frost, The Buildings of Bath

Annette Bierman, Materia Medica in Dutch 17th C Pharmacopoeias



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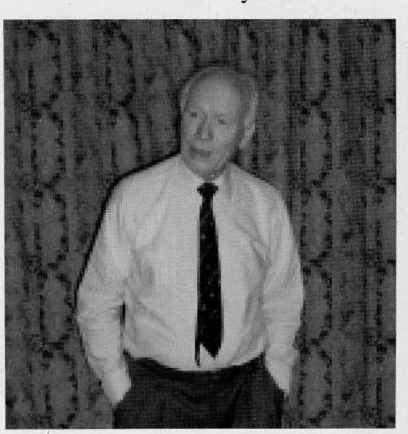

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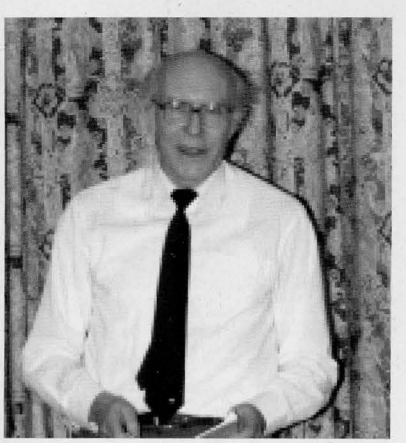

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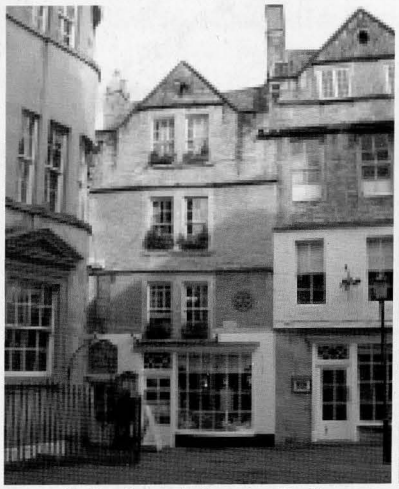

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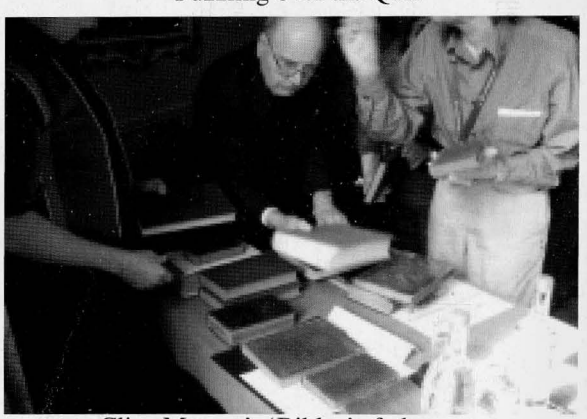

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British Society for the History of Pharmacy

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Editor: Ainley Wade, BPharm, MPhil, FRPharmS
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Wednesday 14 February 2007
To be announced.

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'Electricity and the Enlightenment'by Dr Nicholas Cambridge. Lambeth 6.30 p.m.

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The 2007 BSHP Conference will be held at the Waterton Park Hotel near Wakefield from March 30th to April 1st. Would any member who would like to present a short paper at the conference please send the title and brief details of the content to Shirley Ellis by November 30th 2006.We would particularly like to have papers from our northern members or ones with a northern theme.

A Georgian First Aid Cabinet: unpacking an early 19th century medicine chest

Briony Hudson

Keeper of the Museum Collections,
Royal Pharmaceutical Society

As a museum curator, the type of history that I find most satisfying is a close focus on one object. Hence, this paper, metaphorically unpacking the contents of a Georgian medical chest, is a verbal representation of a real treat. There is something both exciting and satisfying about opening a medicine chest, and finding its contents present in their own special places: squared-off bottles that fit neatly into purpose-made spaces; drawers with sliding-lids that reveal more jars and packages lurking beneath; a range of labels and packaging hinting at past remedies that were used or discarded.

The Museum of the Royal Pharmaceutical Society was not founded until 1842, a year after the Society itself. However, we are lucky to have a large and wide-ranging collection covering British pharmaceutical history from at least as far back as the 17th century and continuing up to the present day. Our medicine chest collection numbers just over 30 items, each interesting in their own right. The Georgian example described here is one of the most complete chests that we have.

The significance of my title, 'A Georgian first aid cabinet' refers to the role of the domestic medicine chest as a portable dispensary, precursor of the bathroom cabinet or first aid kit. It was a supply of medicines close-to-hand for home use, although, as it will be shown below, some of the supplies were for use by a visiting doctor, rather than for use by the owner of the chest.

The medicine chest's earliest ancestors probably existed in ancient Rome with containers for medicinal products in bronze, ivory or wood. Ship's chests first appeared from the 16th century onwards, such as the barber-surgeon's chest that survived on the Mary Rose. There are also army surgeons' chests that exist from this period. During the 16th and 17th centuries, the medicine chest moved into the domestic arena

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when very wealthy or military noblemen had their own medicine chests. This included Peter the Great, whose ebony and silver chest is in the collection of the Hermitage Museum in St Petersburg. Of course, in the 18th century, the Grand Tour prompted the production of more chests for travelling.[1]

In Germany, treasure chests to hold expensive cosmetics, jewellery and medicines were common from the late 1500s onwards. Plague mandates in the 17th and 18th centuries stipulated that all households must have a stock of medicines. Dr Richter in Halle was one German medic who ran a successful business selling stocked medicine chests from the end of the 17th century.[2]

British medicine chests

Medicine chests didn't arrive in Britain until the late 18th century. Anne Mortimer Young, in her survey of British medicine chest collections, found no surviving examples of British medicine chests until the 18th century.[3] The chests' hey-day was the 19th century, when apothecaries and druggists started to sell and promote them. Having a chest filled with medical supplies at home fitted into a long British tradition of self-medication, with remedies sourced from an 'open medical market place.'[4] A ready-filled chest reflected the trend for specially-supplied chemical remedies, or ready-made powders, tinctures and pills. For those that could afford them, these were beginning to eclipse animal- and plant-based medicines, which in the past had drawn on family knowledge and gardens, or even special still rooms of country houses.[5] The ability to afford domestic medical supplies also fits with the theory that this period of industrialisation rested on the growth of the middle classes and their increasing prosperity: a much higher level of consumerism than had ever been experienced before formed the motor of change during the Industrial Revolution.[6] Another important factor, as true for medical supplies as for the wider economy, was the ability of British manufacturers to draw on world trade, and this is certainly evident with the contents of the chest under discussion.

It has been suggested that the contents of a chest can be used as an insight into the medical approach of the time.[7] What was being used in the middle-class home to treat ailments? How did it follow current medical thinking? The typical medical chest reflected this era of 'heroic medicine' with vigorous therapies such as chemical remedies including antimony and mercury, and this chest is no exception. Purging, enemas, emetics, blistering plasters and blood letting, all based on the humoral theory dating back initially to Hippocrates, and to at least the middle ages, were still central to 19th century treatments. Opium was the only painkiller available and as such was used widely.

The knowledge

Medicine chests came with, or were used with, a medical treatise or guidebook written for the lay public. Twenty titles were published in Britain between the 1760s and the 1890s, and ran to many editions. For example, Dr Buchan's *Domestic Medicine* (1769) ran to 19 editions. Dr Tissot's guide, *Advice to the People with Regard to their Health* was published in French in Switzerland. It was translated into English by Dr Kirkpatrick in London in 1765.[8] Mrs Thrale owned both books.[9] The use of the chests for the home or travel is obvious from the subtitle of E. Cox's *Companion to the Medical Chest*. The 33rd edition, published in 1843, was subtitled 'particularly adapted for Heads of Families, Ships' Captains, Missionaries and Colonists.'[10] Copies of these books are now quite scarce.

The manuals were very practical. Rather than theorising on causes of diseases, they contain lists of the contents of the chests and how to use them. They also include detailed explanations of weights and measures, tables relating dosages to the age of the patient, and lists of properties of the drugs, plus instructions for purging, emetics and bleeding. It must have been difficult to work out the dosages, particularly when the book left the user in no doubt that the drugs were extremely dangerous. Some manuals numbered the bottles and gave the instructions for using them. For example:

> Bad Digestion – Take a dose of number 22. If costive [constipated], take a dose of either number 20, 23 or 24 then later thrice a day a dose of number 6. If it continues, add to every dose of number 6, a dose of number 18 or 10.[11]

The first aid element of the chests is also clear from the fact that the books often have instructions for resuscitation of the poisoned or drowned, advice on how to treat burns and scalds, and descriptions of support for fractures, dislocations and sprains.[12] Some also suggest that it was useful to have medical supplies at home for when a physician visits, or even mention that it meant that you could help out your poor neighbours, following the example of the Good Samaritan. Butler's *Medicine Chest Companion* claims that there had been a demand from members of the Church for specific advice when they were called upon to perform first aid if a physician or surgeon was not at hand.[13]

All of the manuals recommend access to a qualified physician, sometimes implicitly, often explicitly. Hugh Smith of London in the earliest known British manual, *Family Physician* (1760) stated:

> The intention of the following sheets is to direct a right use of these medicines which are necessary to be kept in families, whose distance from a good practitioner or any other circumstance, renders an immediate application in sudden illnesses almost impossible and occasions those delays in trifling complaints, which often time prove of very bad consequences.[14]

Cox's *Companion* admitted that some of the contents of the chest had not been explained fully:

> On the further application of this medicine to dangerous diseases we decline saying anything, as such cases are only to be treated successfully by those who have a proper insight into the laws of the animal economy.[15]

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The chest

The only information we have about the chest we are examining is that it was donated to the Museum by a Mr Francis in 1960. The rest we have to deduce from the object itself.

Unsurprisingly, the closed mahogany chest is reminiscent of a tea caddy, as the craftsmen making medicine chests were the same as those making caddies and writing slopes. These cabinet-makers would sell the chests to druggists and apothecaries direct or to wholesalers of medical and pharmaceutical goods who sold them on to be fitted out by pharmacists or apothecaries.[16]

This chest seems to date from the early 19th century. The 'Duke of York' style with a lifting lid and a door to the front is typical from the late 18th century to about 1830.[17] After the 1820s, military style flush brass handles were the fashion. This probably dates our chest to before the 1820s, as it has protruding handles, although, of course, it may not have represented the height of fashion.[18]

Maker's names are rarely printed on the chest, and this one is no exception.

The contents

Medicine chests could be bought ready fitted out. For example, Richard Reece in 1808 was offering chests called the Family Dispensary, the Clergyman's Dispensary and the Tropical Dispensary, amongst others.[19] Otherwise, the chests could be fitted out to customer's specifications, so the contents can vary.

This chest opens with a hinged top, and a hinged front. It has a lock and a catch to secure the lower section.

Top section

From the late 18th century onwards, bottles in medicine chests were square or rectangular in section to fit effectively into a rectangular chest. The bottles were not discarded when they were empty. They would be re-filled back at the pharmacy and sometimes re-labelled. In this chest, the laudanum bottle is a good example of one that appears to have been re-labelled. Many medicine chest bottles have labels on their shoulders, so that they can be read from the top when placed in the chest.

The rectangular bottles in this chest are blown, with pontil marks. Four of the bottles in this top section have metal caps, typical of the early 19th century. Most of the bottles in this chest are labelled 'Pope, 96 Oxford Street, London, To HRH the Duchess of Gloucester, From Messrs Savory Moore and Co, Bond St'. I have been unable to uncover any details of Pope's business. However, the history of Savory and Moore is well-documented. This long-running business opened its Bond Street pharmacy in 1794. However, it did not trade under the name 'Savory, Moore and Co' until 1814, became 'Savory, Moore and Davidson' between 1818 and 1826, and went back to 'Savory, Moore and Co' from 1826 onwards.[20] At this point, the Duchess of Gloucester was Princess Mary (1776-1857), fourth daughter of George III.

The bottles contain:

Turkey Rhubarb. The powdered root of what was regarded as the finest rhubarb. It was stomachic, astringent and purgative, and was used for stomach upsets, flatulence and constipation.

Jalap Powder. The powdered root of a Mexican plant containing a very strong purgative.

Calcined Magnesia (oxidised magnesium). An antacid and mild laxative, also used for heartburn and diarrhoea in adults, and constipation in children. It was once also recommended for gout.

Peruvian Bark. The powdered bark of cinchona, the South American plant source of quinine. The word quinine first dates from the 1820s, which suggests that this bottle may be earlier than this. Cinchona was used to treat fevers and malaria and was also thought to be a tonic and strengthener to be taken for headaches, coughs, sore throats, small pox and 'putrid measles.[21]

Tincture of Rhubarb. An alcoholic extract of the rhubarb rhizome, again used for stomach upsets and constipation.

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Tincture of Jalap. An alcoholic extract of Jalap roots, used as a laxative.

Tincture of Senna. An alcoholic extract from the leaves of the tropical Senna plant, used as a laxative.

The upper section of the chest also includes a compartment that lifts out to reveal another compartment below. These are storage for equipment. The accessories in medicine chests were very standardised:

Balance and weights for weighing medicinal ingredients. These are the items that are least likely to be original in a chest, because they were so often lost or replaced. The apothecary's Troy system based on the average weight of a grain of wheat was used by pharmacists into the 20th century. As in this chest, grain weights were supplied in flat sheet brass. Drachm and scruple weights were square and thicker, and lacked bevelled edges before 1800. From the mid-19th century, they were round or lozenge-shaped.[22]

Lancets for lancing boils and abscesses. Blood-letting, lancing or minor operations were not recommended by the manuals unless by a professional. However, Samuel Johnson plunged a lancet into his legs and testicle to relieve water build up in the last hours of his life. Both Boswell and Johnson were keen on blood-letting.[23] There are two lancets with tortoiseshell handles in a red leather case in this chest.

Ceramic tile as a surface for mixing or making medicines. Tiles were marble or tin-glazed ceramic in early chests, and housed in vertical slots, as it is in this case.

Spatula for mixing medicines or spreading plasters. Spatula handles were tortoiseshell, mother of pearl or ivory in earliest examples, and wooden later. The one in this chest has a wooden handle.

Lower section:

Spirit of Lavender. A compound mixture, taken in a glass of cold water, or with port, used for 'lowness of spirits', lack of appetite, faintness, flatulence and hysteria.

Camphor Liniment. An external medicine mixed with olive oil used as a rub for rheumatism, sprains and stiff joints. Camphor is an essential oil from the East Asian camphor tree.

Ipecacuanha. The powdered root of a South American shrub, used as an emetic (induces vomiting), an expectorant (stimulates phlegm) and once recommended for dyspepsia (indigestion).

Laudanam. Another name for tincture of opium which was pain relieving, sedative and hypnotic (sleep inducing), and widely used in the period. This bottle has a label that simply states 'Laudanum Poison', and has no chemist's details. It was probably re-labelled at a later date.

Spirits of Sal Volatile (Ammonium carbonate in an aromatic solution). These were mixed with water and sipped for 'fainting fits' and lowness of spirits, or with wine for heartburn. This bottle has a different label to many of the others. It says 'Savory, Moore and Co. Chemists to the Royal Family. 136 New Bond St & 220 Regent St., London.' This dates the label to after 1826 when the company opened its Regent Street premises.[24]

Drawers

Drawers in early medicine chests had sliding covers and fitted tin boxes, and sometimes a rack to hold glass jars with tie-on covers in parchment or chamois. This chest has the jars, but not the rack. Later, drawers also contained powders in individual paper packets.[25] This chest has four drawers.

Drawer one

Fabric The blistering plaister would be gently heated to melt then spread on a piece of material. It was linen or cotton until the invention of lint in 1849.

This drawer also contains four hand-written recipes:

'The Prescription. Mrs Smith' which has a recipe for 'The Powders' and another for 'The Aperient Mixture.'

Two pages, each entitled *'Dr Hatchell's Prescription for Cholera*.' The instruction is 'to be taken immediately when attacked by Diarrhoea, pain or sickness.'

'Cough mixture', again for Mrs Smith. Tantalisingly, this recipe is dated January 25th, but with no year given.

It therefore seems safe to assume that the chest belonged to a Mrs Smith at some point in its life. The first cholera epidemic in Britain occurred in 1831, so Dr Hatchell's Prescription may relate to this outbreak.

Drawer two

Dr James' Fever Powders contained antimony as a febrifuge (anti-fever), a poisonous substance responsible for many deaths when the powders were taken to excess. The ingredients were a guarded mystery like many other secret remedies of the time. The patent recipe was antimony and calcium phosphate, mixed with animal oil and salt, boiled in melted nitre and separated to produce powder. It was developed by Dr Robert James who achieved fame for his expertise in fevers and childhood diseases. Dr James came from Lichfield and was a friend of Samuel Johnson.[26] Johnson contributed to Dr James' Medical Dictionary. Fanny Burney took Dr James' Powders for a feverish cold.[27]

One of the packets is labelled 'F. Newbery and Sons, 45 St Paul's, London'. The price was 2s 9d per packet. Francis Newbery was the nephew of John Newbery, publisher (of Mother Goose amongst other things) and medicine merchant. John Newbery and Dr James entered into an agreement after the Fever Powders were patented in 1746, in that Newbery would manufacture the powders in return for a half share in the takings. Francis Newbery took over his uncle's business, and built a new warehouse at 45 St Paul's churchyard in 1778.[28] The other two packets are labelled as sold by R Butler and Sons, Chemists, 4 Cheapside, London 'appointed Agents in the place of Messrs Newbery.'[29] All three packets have a medicine duty stamp for three pence (3d) attached to them. The

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first tax on medicines was introduced in 1783. However, it was the Medicine Stamp Act of 1812 that introduced the requirement that a duty stamp be attached to the medicine's packaging.

This drawer also includes a printed advertisement for Dr James' Fever Powder. The many testimonials featured include one from *The Lancet* dated 1859, which suggests that this was a later addition to the case.

The drawer also contains two small bottles with chamois covers over the bottle tops:

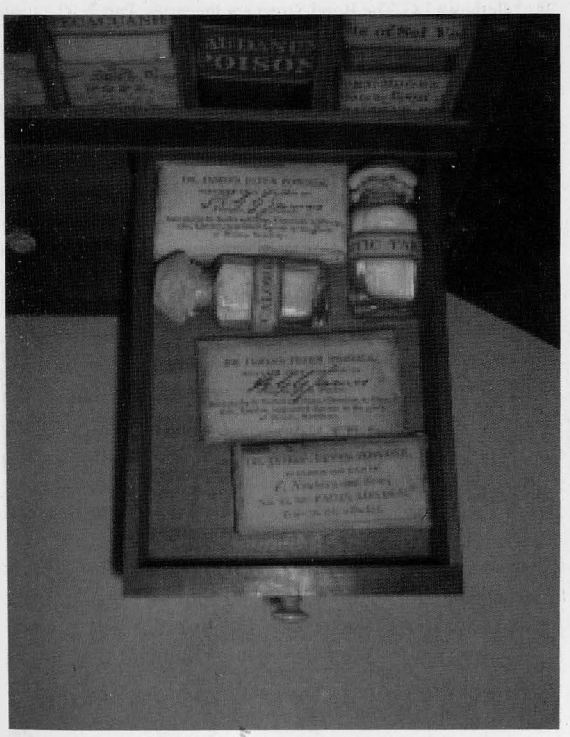
Emetic Tartar. Tartrated Antimony or Antimony Potassium Tartrate was used as an emetic (induces vomiting). It was recommended for children because it was tasteless.

Calomel. (Mercurous Chloride or Mercury Subchloride) was once a popular purgative (strong laxative) and was also used as an anti-syphilitic when made into an ointment. It was also believed to benefit a wide range of other conditions including stimulating liver function, treating 'biliousness', and treating threadworms in children.

Drawer three

The third drawer contains four glass pots with chamois covers tied on, and paper labels. One of the labels is illegible. The other three are:

Blister Plaister. Causes blistering of the skin and was used as a 'counter irritant.' For example, a blister on the nape of the neck was used to treat headaches. The belief was that a blister 'moved' the pain and was thought to draw out the cause of the condition. Joshua Reynolds was blistered to treat pain and inflammation in his left eye. He also took laudanum to relieve the pain.[30]



Yellow Basilicon was an ointment used to heal blisters. The word 'basilicon' was also used for an ointment that was applied to the skin to draw out boils and splinters.

Blue Pills were prepared from mercury, syrup, liquid glucose, glycerin and powdered liquorice root, and used as a purgative (strong laxative).

This drawer also contains a Seidlitz measure and a funnel.

Seidlitz Measure. This two-piece measure was specifically made for two powders (collectively called a Seidlitz Powder) which were a treatment for indigestion. One powder was sold wrapped in blue paper (sodium potassium tartrate and sodium bicarbonate) and one in white paper (tartaric acid). The powders were dissolved in water and mixed and the resulting solution drunk while it effervesced. Seidlitz is a village in Bohemia with mineral springs that had the same medicinal effects.[31] Before 1820, one end measured a teaspoon, and one end a tablespoon. In early chests, the measures were made of silver or pewter. The Seidlitz Measure in this chest is pewter.

Funnel which was probably used when refilling bottles in the medicine chest. These were silver or pewter in earlier chests, glass in later ones.

Drawer four

This contains a glass mortar and pestle which was used for preparing and mixing medicinal ingredients.

Other items

This medicine chest does not include any other contents. However, other possible items supplied or found in medicine chests include:[32]

A probang. This is a device made from a flexible thin material about 30cm long with small sponge ball and flexible metal band, used to dislodge anything stuck in the gullet.

A plaster iron to spread plasters onto fabric

Adhesive plasters, which were included from the1880s onwards

Leech tubes in curved glass which were used to direct a leech's attention to problem areas like a gumboil.

Caustic stick in a case including silver nitrate used to burn or corrode warts.

We can imagine, as today, that if someone fell ill at home or while travelling, the first recourse would be to the chest, using the manual. If the first aid efforts had no effect or if the symptoms persisted, you might then turn to others for advice. This might include calling out a physician, who might use some of the contents of the chest himself.

The popularity of medicine chests continued throughout the 19th century, and homeopathic chests were introduced alongside conventional ones. The decline of the medicine chest towards the end of the

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1800s has been explained by a number of factors:

- a growth of available supplies and advice from hospitals, pharmacies, and doctors;
- a decline in epidemics and hygiene-related illnesses. The contents of medicine chests with their emphasis on preparations for digestive complaints brings home the fact that many inhabitants of 19th century Britain had to live with the threat of cholera in the back of their mind;
- change in the dosage forms of medicines, particularly the increase in the number of preparations sold as tablets.

In the late 19th and early 20th centuries, selling a 'package' of typical remedies continued, although more frequently in the form of medicine chests or cases produced by Burroughs Wellcome (with their Tabloid brand hypodermic tablets) or Parke Davis. The Museum's collection includes a number of these examples, including those issued by the military.

Acknowledgements

The illustrations are courtesy of the Museum of the Royal Pharmaceutical Society.

This article is based on a paper presented to the joint Faculty of the History and Philosophy of Medicine and Dr Johnson's House Symposium on 'Apothecaries, Art and Architecture: Interpreting Georgian Medicine', held at Apothecaries' Hall on 24-25 November 2005.

Author's address: briony.hudson@rpsgb.org

Endnotes and References

1. Young AM. *Antique Medicine Chests*. Brighton: Vernier Press, 1994: 3-10

2. Young AM. *Antique Medicine Chests*. Brighton: Vernier Press. 1994: 10; 15-16.

3. Young AM. *Antique Medicine Chests*. Brighton: Vernier Press, 1994: 23.

4. This is a term used widely by medical historians from the 1990s onwards.

5. Young AM. *Antique Medicine Chests*. Brighton: Vernier Press, 1994: 23. In 1758, for example, Temple Newsam House in Leeds employed a full-time still room maid at an annual salary of £2-10s http://www.leeds.gov.uk/house/house_serv.html Accessed 10th November 2005.

6. Perhaps the most well-known advocate of this argument is the publication McKendrick N, Brewer J, Plumb JH. *The Birth of a Consumer Society: The commercialization of eighteenth-century*. London: Hutchinson, 1983.

7. Crellin JK. Domestic Medicine Chests: Microcosms of 18th & 19th Century Medical Practice. *Pharmacy in History* 1979; 21(3): 122-131.

8. Young AM. *Antique Medicine Chests*. Brighton:Vernier Press, 1994: 25.

9. Hyde M. *The Thrales of Streatham Park*. Harvard, 1976: 161. Mrs Thrale wrote in her diary 'Another day when somebody among the Servts was sick, I bid Harry fetch me Buchan's domestick Med'cine to consult, or rather say I – calling him back – fetch me Tissot 'tis the better Book – Tis so replied Harry archly.'

10. Cox E. *Companion to the Medical Chest*. London: Simpkin, Marshall and Co; 1843.

11. Quoted in Crellin JK. Domestic Medicine Chests: Microcosms of 18th & 19th Century Medical Practice. *Pharmacy in History* 1979; 21(3): 124.

12. Cox E. *Companion to the Medical Chest*. London: Simpkin, Marshall and Co, 1843, has a section called 'Surgical Department' which covers all of these areas.

13. Butler C. *Medicine Chest Directory*. Dublin: John Cumming, 1837: vii; Crellin JK. Domestic Medicine Chests: Microcosms of 18th & 19th Century Medical Practice. *Pharmacy in History* 1979; 21(3): 124; Young AM. *Antique Medicine Chests*. Brighton:Vernier Press; 1994: 24.

14. Quoted by Crellin JK. Domestic Medicine Chests: Microcosms of 18th & 19th Century Medical Practice. *Pharmacy in History*, 1979; 21(3): 124; Young AM. *Antique Medicine Chests*. Brighton:Vernier Press, 1994: 25.

15. Cox E. *Companion to the Medical Chest*. London: Simpkin, Marshall and Co, 1843: 45.

16. Young AM. *Antique Medicine Chests*. Brighton:Vernier Press, 1994: 24.

17. Ann Mortimer Young explains that the 'Duke of York' association is incorrect, arising from a chest of this design in the Wellcome Collection that was wrongly believed to have belonged to the younger brother of George III. Young AM. *Antique Medicine Chests*. Brighton:Vernier Press, 1994: 27-8.

18. Young AM. *Antique Medicine Chests*. Brighton:Vernier Press, 1994: 24-35. Tables 2 and 3 summarising the trends are particularly useful.

19. Young AM. *Antique Medicine Chests*. Brighton:Vernier Press, 1994: 26.

20. Senior citizens in service. *Chemist and Druggist* 1984; 222: 484; Matthews LG. The Bond Street apothecaries. Part 2: The business makes progress. *Pharmaceutical Journal*. 1983; 231: 592.

21. Cox E. *Companion to the Medical Chest*. London: Simpkin, Marshall and Co; 1843: 21.

22. Young AM. *Antique Medicine Chests*. Brighton:Vernier Press, 1994: 38-9.

23. Nicholls G. 'The general disease of my life': Samuel Johnson and his health. In McEnroe N, Simon, Robin (eds). *The Tyranny of Treatment. Samuel Johnson, his friends and Georgian medicine*. London: British Art Journal, 2003: 12-17; Sisman A. Boswell's complaints. Ibid.: 18-24.

24. Matthews LG. The Bond Street apothecaries. Part 2: The business makes progress. *Pharmaceutical Journal* 1983; 231: 593.

25. Young AM. *Antique Medicine Chests*. Brighton:Vernier Press, 1994: 35.

26. Bishop TH. 250 years ago was born Robert James M.D. of 'fever powder' fame. *Chemist Druggist* 1955; 163: 94.

27. Chisholm, K. Fanny Burney. In McEnroe, N, Simon, Robin, (eds). *The Tyranny of Treatment. Samuel Johnson, his friends and Georgian medicine*. London: British Art Journal, 2003: 51.

28. Pulvis Jacobi Verus and other old medicines. *Chemist and Druggist* 1896; 49: 160-1.

29. I have been unable to trace this business. However, George Butler of Cheapside was a company bought by Corbyn, Stacey and Co in 1850. Richmond L, Stevenson J, Turton A (eds). *The pharmaceutical industry: a guide to historical records*. Aldershot: Ashgate Publishing; 2003: 143.

30. Postle M. Sir Joshua Reynolds. In McEnroe, N, Simon, Robin, (eds). *The Tyranny of Treatment. Samuel Johnson, his friends and Georgian medicine*. London: British Art Journal, 2003: 30-8.

31. Homan, P. Seidlitz: the morning-after powder. *Pharmaceutical Journal* 2001; 267: 914

32. Young AM. *Antique Medicine Chests*. Brighton: Vernier Press; 1994: 38-42.

Suggested further reading

This paper has relied heavily on the excellent *Antique Medicine Chests* by Anne Mortimer Young. Much of the remaining information relates to examination of material in the Museum's collection.

https://dx.doi.org/10.24355/dbbs.084-201801291346

Butler, Charles. *Medicine Chest Directory*, 4th edn. Dublin: John Cumming, 1837.
Crellin, JK. Domestic Medicine Chests: Microcosms of 18th & 19th Century Medical Practice. *Pharmacy in History* 1979; 21 (3): 122-131.
Davis, R (ed.). *Cox's Companion to the family medicine chest and compendium of domestic medicine*. London: Simpkin & Marshall, 1845.
Myers, JA. Nineteenth Century Royal Navy Medicine Chests *Pharmaceutical Journal* 1993; 251: 856-857.
Pinto, EH. Apothecary Cabinets. *History of Medicine* 1970; 2 (3): 25-27.
Romieux, Y. The Sea-Chests of the Dutch East India Company according to the price list of 1739. *Revue d'Histoire de la Pharmacie* 1993; 40 (299): 427-436.
Whitebread, C. An Interesting Old Medicine Chest. *Journal of the American Pharmaceutical Association* 1936; 25 (11): 1005-1009.
Young, AM. Domestic Medicine Chests: Part 1 Orthodox or Allopathic. *Antique Collecting* 1980, December: 4-11.
Young, AM. Domestic Medicine Chests: Part 2 Homeopathic. *Antique Collecting* 1981, January: 9-11.
Young, AM. Fitted to Combat Suffering: Domestic Medicine Chests. *Country Life* 1985 (January): 279-281.
Young, AM. Domestic Medicine Chests: home pharmacy in the 19th century. *Pharmaceutical Historian* 1992; 22(3): 7-12 (Aug).
Young, AM. Death of a Dinosaur: the rise and fall of the British domestic medicine chest. *Actes du colloque des conservateurs des musees d'histoire des sciences medicales* 1992; 6: 97-103.
A Nineteenth Century Medicine Chest. *Chemist Druggist* 1935; 123: 323.

The Many Aspects of Chlorodyne:

Part 2: Chlorodyne in Confectionery[1]

Dr Henri C. Silberman

Geneva

Chlorodyne confections were medicinal sweets. Medicines, especially the bad-tasting ones, have been since very early times taken together with a sweet-tasting excipient such as honey or sugar.

Such sweet-tasting compositions were prepared by pharmacists as well as confectioners. Both professions have a long history of ancient medicinal sweet preparations. We turn now to a more recent period.

Allen and Hanburys

Among the well-known British pharmaceutical companies which operated in Victorian times and which specialised in medicinal sweets, the firm of Allen & Hanburys comes to mind. They dated back to 1715. The company was taken over by Glaxo in 1958. Glaxo then became the conglomerate GlaxoSmithKline.

Allen and Hanburys of Lombard Street, London was famous for its medicinal confections. Forty-two medicated pastilles are in the price list of Allen & Hanburys of Plough Court, Lombard Street, London EC. Allenburys' pastilles, 'because of their efficacy and delicacy of flavour' were 'known the world over'. These pastilles had as their basis Pâte de Jujube.[2] They were publicised as 'soft and demulcent by themselves, thus soothing and protecting the mucous membranes lining the passageways for air and food.' Some of these medicated pastilles contained morphine, others opium, camphor, aconite, sodium chlorate, sodium benzoate, belladonna, cocaine and so on. The Allen and Hanburys Chlorodyne lozenges were mentioned, for example, in an 1892 sales catalogue.

The incorporation of a drug into a sweetmeat is also a means for easy dosage of the drug. The dilution of the drug with sugar contributed furthermore to its stability. The same 1892 price list included 104 different tabellae (compressed drugs), which by their composition can also be counted as medicinal sweets.

Burroughs Wellcome

Another famous pharmaceutical firm which operated during the heyday of chlorodyne's popularity was Burroughs Wellcome & Co, with its Tabloid Brand products. Almost everything became available in compressed form from them. Even tea.

Burroughs Wellcome is now part of the big conglomerate GlaxoSmithKline. Burroughs Wellcome & Co. issued in 1890 a price list in which figured a range of 'Tabloids' compressed drugs with among them those which one can call medicinal sweets.[3] These were vegetable laxatives, voice Tabloids (cocaine, potassium chlorate and borax), pectoral (ammoniated glycyrrhizin, squill, tolu, senega, ipecacuanha, wild black cherry), pine tar compound, tonic compound, soda mint and many more.

Smith Kendon

Another enterprise, Smith Kendon, was also one such firm specialising in medicinal confections. The firm was founded 1780 and at its beginning was simply called Smith and Company. It continued in Fell Street in London until 1864. It then moved to Borough High Street London. The founder of the firm, William Smith, must have been a tradesman because the firm never expanded on his virtues. The firm was renamed Smith Kendon for the two sons of the founder, Kenneth and Donald. The firm was bombed out during the 'blitz' and is now part of Philip Morris, the tobacco conglomerate.

A price list dated 1813 shows a range of medicinal lozenges, tablets and confectionery items. Opium lozenges were featured in addition to peppermint, coltsfoot, horehound, cinnamon, heartburn and liquorice lozenges.[4]

Figure 1 shows the title page from the product list of 1858 of Smith & Company. This list included medicinal items such as Camphor Lozenges, a series of throat Hospital Lozenges, Paregoric Lozenges and many other medicinal confections. The Paregoric Lozenges contained camphorated tincture of opium. Opium Lozenges were also featured in this 1858 list, which contained 30 different liquorice products, 16 pâtes de jujube, 13 French pâtes de jujube, 85 Lozenges, 52 Confits, 15 French crystallised confectionery and other sweets such as fancy

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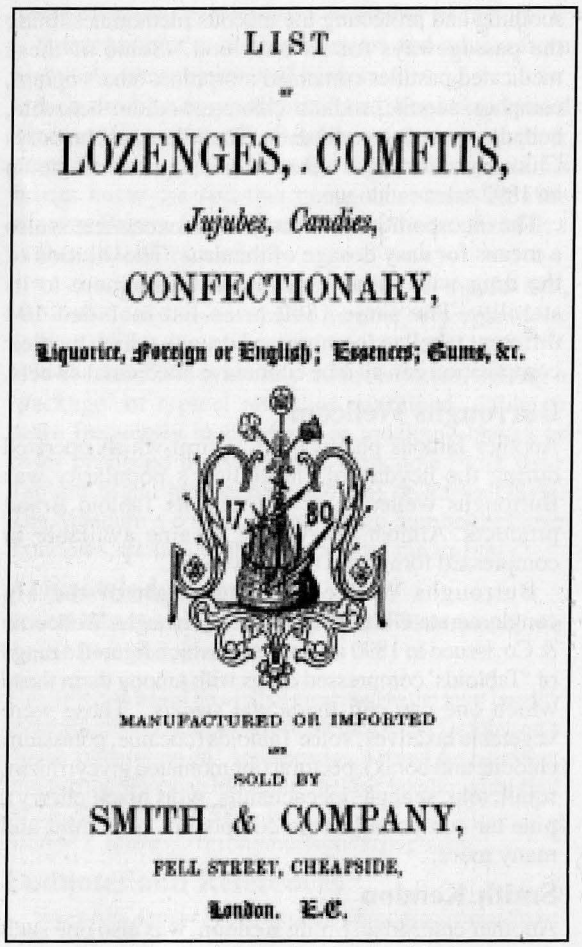

Figure 1

chocolates which were all medicinal confections. Chloroform had been first prepared in 1831. It was used internally as an anodyne only some years later. It did not feature in the Smith & Co. 1858 list. Neither of course did Chlorodyne.

Besides these three well-known companies, there were of course many small pharmacies and confection stores which also produced medicinal sweets. It is difficult to decide where to draw the line between what is medicinal and what is not. Coca Cola might called a medicinal drink because of its original cocaine content. Coffee and tea may also have a medicinal connotation because of the presence of the alkaloid caffeine.

As described in Part 1 of this contribution (June 2006), chloroform and chlorodyne were drugs by themselves. Chlorodyne was at first a nostrum, a proprietary drug developed by the physician J. Collis Browne around 1846. Several varieties of chlorodyne were produced by different pharmacists. The best known chlorodyne was the one manufactured by the pharmacist Davenport. His chlorodyne nostrum was even prescribed by physicians. Chlorodyne soon became an official drug.

The *British Pharmacopoeia* had a chlorodyne formula in its 1885 and subsequent editions. This formula for Tinctura Chloroformi et Morphinae (Tinct. Chlorof. et Morph.), also known as Tincture of Chloroform and Morphine, Chlorodyne; Tinct. Chlorof. et Morph. *B.P.* 85, was:

Chloroform 125.0 mL
Anaesthetic Ether 31.25 mL
Alcohol (90 per cent.) 125.0 mL
Morphine Hydrochloride 2.29 g
Dilute Hydrocyanic Acid 62.5 mL
Oil of Peppermint 1.04 mL
Liquid Extract of Liquorice 125.50 mL
Treacle, of commerce 125.0 mL
Syrup to 1000.0 mL.

Treacle, in the context of this formula meant molasses. In the *British Pharmacopoeia* 1932, this formula was temporarily omitted, because of restrictions on the use of narcotics.

The chlorodyne (Chloroform and Morphine Tincture) of the *British Pharmacopoeia* 1999 has the following composition:

Chloroform 125 mL
Morphine Hydrochloride 2.29 g
Peppermint Oil 1 mL
Ether 30 mL
Purified Water 50 mL
Ethanol (90 per cent) 125 mL
Liquorice Liquid Extract 125 mL
Treacle, of commerce 125 mL
Syrup sufficient to produce 1000 mL.

Chloroform, Morphine and Ether are maintained in their former strength. Hydrocyanic acid, on the other hand, been removed.

There existed also another similar official preparation in the B.P. 1934. It was named Tinctura Chloroformi et Morphinae Composita, (Tinct. Chlorof. et Morph. Co.), Compound Tincture of Chloroform and Morphine, and had the composition:

Chloroform 75 mL
Morphine Hydrochloride 10 g
Dilute Hydrocyanic Acid 50 mL
Tincture of Capsicum 25 mL
Tincture of Cannabis 100 mL
Oil of Peppermint 2 mL
Glycerin 250 mL
Alcohol (90 per cent.) to 1000mL.

This Tincture is just a variety of chlorodyne. Both the proprietary mixture and the official substitutes existed side by side. The products maintained their narcotic strengths until 1920 when chlorodyne with a morphine content of more than 0.2% became a so-called 'dangerous drug'.

Among well known medications in Great Britain that contained morphine and chloroform and coming close to chlorodyne were the well known Brompton cocktail, Haustus elixir or St Christopher's Elixir and other designations. It contained Morphine Hydrochloride 15 mg, Cocaine Hydrochloride 10 mg, Alcohol (90%) 1.8 mL, Syrup 3.5 mL, Chloroform Water to 10 mL.

Alcohol and syrup had replaced the honey and gin of

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an earlier Brompton Mixture. At the Royal Brompton Hospital, London, the cocktail was used until about 1986.

Chlorodyne was also an officially recognised and very popular medicine in the United States. Tinctura chloroformi et morphinae of the *Dispensatory of the United States of America* of 1891 was the official substitute for the well-known British nostrum chlorodyne. It contained chloroform, ether, rectified spirit, morphine hydrochloride, diluted hydrocyanic acid, oil of peppermint, liquid extract of liquorice, treacle and syrup.

A chlorodyne prepared by Abbott Laboratories of North Chicago, Illinois, had a somewhat different composition. Its ingredients as listed in their 1935 catalogue were Morphine Sulphate, Ext. Cannabis, Hyoscyamine Sulphate, Oleoresin capsicum, Nitroglycerin, and Menthol.

Some medicinal confections had chlorodyne as their active component. Chlorodyne gums and lozenges were very popular in England at the end of the 19th century and later. One company famous for making them was the firm Fryer & Co. of Nelson, Lancashire.

Victory V Gums

Thomas Fryer was born in the early 1840s and started making sugar confectionery on a small scale sometime around 1860. It was around 1884 that chlorodyne-containing sweetmeats were created at Fryer & Co. A Dr Edward Smith of Bolton created the original recipe for the chlorodyne lozenges and gums. The medicated sweets were extremely popular in Great Britain and were also exported, above all to the colonies. The sweets were packed in large tins which were usually decorated outside and inside.

Figure 2

Figure 2 shows the inside of the lid of such a tin. It shows a nurse with a Victory-V gum in her hand. Both sides of the lid reflect the selling arguments of the company: Victory-V gums and lozenges for long journeys, especially in bad weather. It wasn't wise to eat too many sweets at once. A lady, it was reported, once ate a full quarter of a pound at one sitting and then slept for two days.

The lozenges were prepared by mixing together sugar, linseed, liquorice and chlorodyne. The mixture was then poured on a marble slab. It was then flattened out with rolling pins and cut to the desired shape. The basis for the Victory V Gums was gum acacia. Liquorice was well known to have medicinal properties too. The lozenges were pale brown and the gums were black. In the 1980s, because of new health regulations chloroform was banned and the product lost its 'kick'. It became a shadow of its former self according to consumers at that time. The chloroform was replaced by ether.

Barker & Dobson bought the Fryer firm in the early 1970s and the operation was moved to Scotland. Ernest Jackson & Co Ltd then bought the Victory V brand 1982 and manufactured the confection at Crediton in Devon.

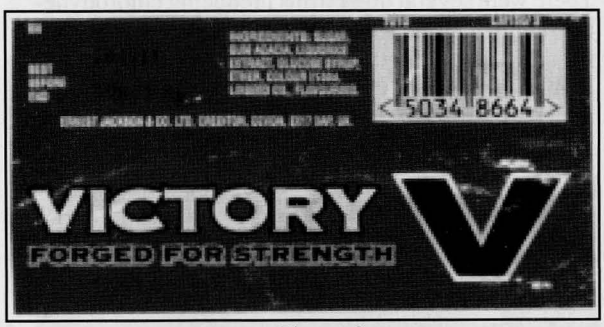

Figure 3

Figure 3 shows a recent wrapper of Victory V. On it the ingredients are listed as sugar, gum acacia, liquorice extract, glucose syrup, ether, colour, linseed oil, flavouring. 'Victory V forged for strength' is the new slogan and Ernest Jackson is now part of Cadbury-Schweppes.

R. Parkinson & Sons

Another company which produced chlorodyne lozenges was R. Parkinson & Sons.

Figure 4

Figure 4 shows a label from a box of Parkinson's

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Extra quality Chlorodyne Lozenges from about 1890. It bears a caution to not take too many lozenges at one time. The Parkinson's firm was established in 1848 at Burnley, Lancashire. It became one of the largest medicinal companies in the world. Parkinson's was the first in England to coat pills with sugar and was a pioneer in family medicines.

Richard Parkinson, the founder, was a Wesleyan day school teacher. After having also been a commercial traveller, he decided to go into the wholesale chemist's trade. Subsequently his firm moved to Nelson in 1848 and then, after a fire, to Burnley in 1870. At the death of the founder in 1880 his two sons took over. A third and fourth generation followed until the final fifth. In 1983 the receivers were called in and the firm closed down definitively.

Thomas Kerfoot & Co.

There were several other firms producing chlorodyne-containing confectionery. Some can be remembered by their metal containers, the tins, which are still around. One such maker of chlorodyne-containing tablets, pastilles or pills was, for instance, Thomas Kerfoot & Co. of Bardsley Vale.

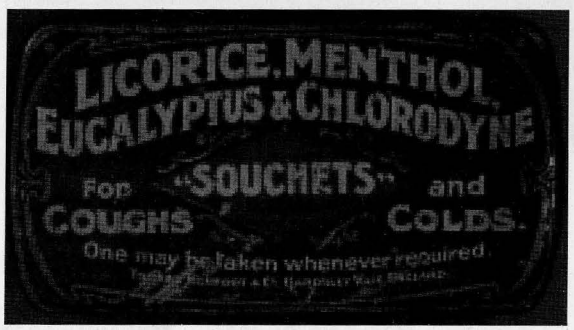

Figure 5

Figure 5 shows the lid of a tin which contained 'Souchets' by Thomas Kerfoot & Co. It is from the information on the lid of such tins that we learn of a particular preparation which contained chlorodyne.

Maynards Ltd

The firm Maynards produced 'Medikoes'. It says 'chloro' on the lid of a 'Medikoes' tin. That 'chloro' most probably stood for chloroform rather than for chlorodyne (Figure 6).

Maynards Ltd were confectioners in Bristol from 1880 when a Charles Riley Maynard started there making sweets. In 1896 Maynards launched a wholesale and retail company. In 1990 Maynards became part of the Trebor Bassett company and is now part of Cadbury Schweppes.

Figure 6

Chloroform

Many preparations on the market contained chloroform.

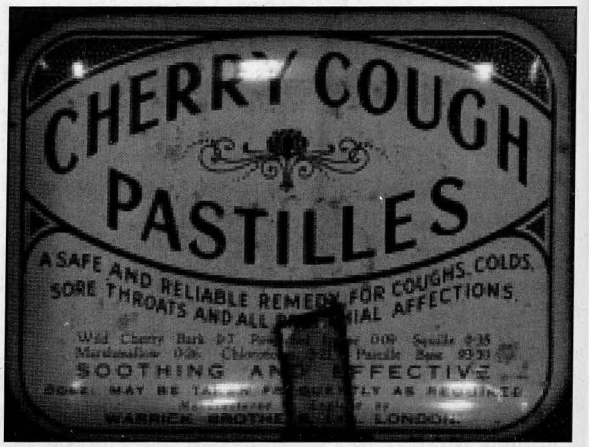

Figure 7

Warrick Brothers was one of the companies that incorporated chloroform in its cough medication (Figure 7). Their Cherry Cough Pastilles contained 3.21% chloroform in their pastilles according to the lid of the metal box of the pastilles. The Post Office London Directory for 1906 lists Warrick Brothers at 6 Nile Street, City Road, London North as 'manufacturers of confectionery and medical capsules'. By 1964 they were described as medicinal pastille manufacturers but were no longer listed in the 1970 Directory.

Meggezones

Figure 8 shows the lid from an old tin of Meggezones, the 'foremost preparation for relieving the most acute catarrhal conditions' as it says on the lid. Meggezones contained 0.4% chloroform, as it says on the bottom right side of the lid.

Meggezones pastilles are still being produced to-

Figure 8

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day but they don't contain chloroform any more. Chloroform has been banned for safety reasons. Meggezone is now a division of Schering-Plough Ltd.

Throat lozenges with chloroform were also produced in the United States.

De Witt & Co.

Figure 9 shows the lid of De Witt's throat lozenges tin, which states 'chloroform not more than 14 minims per lozenge'. The De Witt Company was incorporated in 1912 with the purpose manufacturing various kinds of drugs. It had production facilities and laboratories in both New York and Chicago. In 1959 De Witt had one hundred employees at the Chicago site. In 1921 De Witt purchased the Moore Gum Company. A while later De Witt ceased to exist.

Figure 9

In conclusion one does not find either chlorodyne or chloroform in over-the-counter or prescription medications or confectionery any more.

Endnotes and References

1. This paper was presented at the BSHP Annual Spring Conference, Bath, 30 March-1 April, 2006. Part 1 was published in *Pharmaceutical Historian* 2006; 36 (2): 27-31.

2. *The Plough*, (The 'Allenburys' Magazine) 1926; 4 (October): 12-18.

3. Trade Price List. Burroughs, Wellcome & Co, Snow Hill Buildings, London EC, May 1890.

4. 185-year tradition of quality in sugar confectionery. *Chemist Druggist* 1963 (April 24); 179: 424-425.

Queen Of Hungary's Water: A 'Miraculous' Medicine And Cosmetic

Patrizia Catellani and Renzo Console

Among the old non-chemical remedies that remained popular for a long time we can find very simple formulae like Queen of Hungary's Water, frequently just called Hungary Water in English. The remedy was easy to prepare and was employed for therapeutic as well as cosmetic purposes. It could be used internally, externally or by inhalation.

Its original formula only required rosemary flowers and 'wine spirit', i.e. alcohol obtained by the distillation of wine. In the course of time, however, non-original formulae were created, which contained other parts of rosemary, other aromatic plants and honey. Since the end of the 17th century the original ingredients have almost never been used alone to make the Water. Some firms are still preparing and selling it today as a perfume rather than as a medicine using formulae that include various aromatic essences (like those of citrus and lavender) in addition to the original ingredients.

From Hungary to France and rest of Europe

All those who have used the name of Queen of Hungary's Water have suggested implicitly or explicitly that the remedy was invented in Hungary. However, all the authors indicate that the real 'Water' came from France. For example, three Italian leaflets (one dated 1690) that were printed to advertise its virtues confirm that it was being manufactured there.

This is also shown in a pamphlet published in Italian and French under the bilingual title *Le Grandi, e Maravigliose Virtù dell'Acqua della Regina d'Ungheria: Les Vertu' Admirables de l'Eau de la Reine d'Hongrie* and in a 1770 catalogue of Paris perfumery 'Au Gant Royal' that includes pure Hungary Water and a version containing bergamot.

When Was It Created?

There is uncertainty about when the remedy was 'invented'. Alcoholic preparations of rosemary that are practically identical to the 'Water' could already be found in some medieval treatises. However the formula was only used under the name of Queen of Hungary's Water from the mid 17th century. Since then we can find many references to this remedy in medico-pharmaceutical as well as fictional literature, especially in France. According to *The Oxford English Dictionary* (1989 edition), early references to Hungary Water in English can be found in *The Provok'd Wife* (1697) by John Vanbrugh, in *The New World of English Words* (1706) by Edward Phillips and in the *Cyclopaedia* (1727-1741) by Ephraim Chambers.

Origin of the Name

We have found the earliest reference to Queen of Hungary's Water in the book *Selectiora Remedia* by Jean Prévost (1585-1631), a Swiss physician who graduated

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at Padua. It was first published posthumously in a 1656 collection of his works entitled *Tractatus*.[1] In the chapter *Ad Podagram, & Chiragram* Prévost states:

> For the gout in the hands and the feet. As the wonderful virtue of the remedy given below has been confirmed to me by the cases of many, I shall relate by what good fortune I happened to meet with it. In the year 1606 I saw among the books of Francis Podacather, of a noble Cyprian family, with whom I was extremely intimate, a very old breviary, which he held in high veneration because, he said, it had been presented by St. Elizabeth, queen of Hungary, to some of his ancestors as a testimony of the friendship which subsisted between them. In the beginning of the book he shewed me a remedy for the gout written by the queen's own hand, in the following words, which I copied.[2]

It would seem that the name of Queen of Hungary's Water dates either from 1656 (when Prévost's book was published), or 1631 (if the text was written by Prévost and not added by the editors), or even 1606 when Prévost saw the note written by the queen (if his recollection was accurate). Since then, in the 17th century and afterwards the name of Queen of Hungary's Water has been used universally and very frequently.[3]

The Story

According to tradition this 'water' was used by a queen of Hungary called Elizabeth or Isabella, who was 72 years old, ailing and thoroughly unattractive. Using the the remedy prepared by means of a recipe given to her by a hermit or even by an angel (according to the legend) not only did the Queen get rid of all her ailments, but she was transformed into a beautiful young woman, so that the young King of Poland asked to marry her.

Several authors and researchers in the past and also in recent times have tried to identify this queen. Johann Beckmann (Fig. 1), quoting some of his contemporaries, made the suggestion that the queen could have been Elizabeth of Poland (1306-1381), the wife of King Charles I Robert (or Carobert) of Hungary and daughter of King Wladislaw II of Poland.

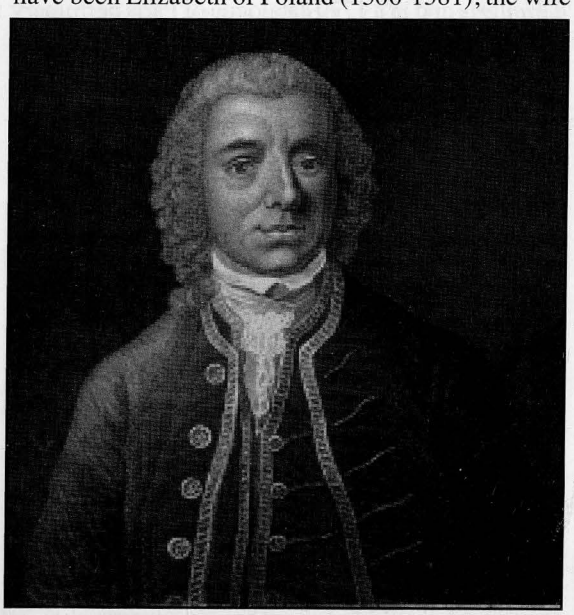

Figure 1. Johann Beckmann. (Wellcome Library, London.)

According to a different theory she could have been Giovanna I of Naples (1326-1382).[4] According to a third one however we need to move forward to the time of Elizabeth of Bohemia (1618-1680).[5] For each of these three hypotheses attempts have been made to discover who was the young king of Poland, but without much success.

However this is how Prévost reports the original handwritten story by 'Saint Elizabeth, Queen of Hungary', and her description of the preparation, use and virtues of the Water:

> I Elizabeth, queen of Hungary, being very infirm and much troubled with the gout in the seventy-second year of my age, used for a year this receipt given to me by an ancient hermit whom I never saw before nor since; and was not only cured but recovered my strength, and appeared to all so remarkably beautiful that the king of Poland asked me in marriage, he being a widower and I a widow. I however refused him for the love of my Lord Jesus Christ, from one of whose angels I believe I received the remedy. The receipt is as follows:
>
> Take of aqua vitæ, four times distilled, three parts, and of the tops and flowers of rosemary two parts: put these together in a close vessel, let them stand in a gentle heat fifty hours, and then distil them. Take one dram of this in the morning once every week, either in your food or drink, and let your face and the diseased limb be washed with it every morning.
>
> It renovates the strength, brightens the spirits, purifies the marrow and nerves, restores and preserves the sight, and prolongs life.[6]

This queen could not have been Saint Elizabeth of Hungary (1207-1231), who died very young and was the daughter of King Andrew II and the wife of Louis of Thuringia (and therefore was not the queen of Hungary herself nor the king's wife).

It is possible that this story reported by Prévost was the source used by the other 17th century authors, and repeated by them. Among these authors we have found Nicolas Lefèvre (1610-1669, an important pharmaceutical chemist), the 'sieur d'Émery',[7] Moyse Charas (1619-1698, a famous pharmacologist) and Pierre Pomet (1658-1699). The story also soon appeared in some dictionaries, like those by Antoine Furetière (1684) and Thomas Corneille (1694) and the one called *Dictionnaire de Trévoux* (1721). Later the story continued to be mentioned by other authors, including some who wrote in English. For example, Henry Hartshorne included this brief statement in his *The Household Cyclopedia of General Information* (1881):

> The original receipt for preparing this invaluable lotion is written in letters of gold in the hand-writing of Elizabeth, queen of Hungary.

And in the 20th century Maud Grieve wrote this in her *A Modern Herbal* (1931):

> Hungary water, for outward application to renovate the vitality of paralysed limbs, was first invented for a Queen of Hungary, who was said to have been completely cured

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by its continued use. [...] A formula dated 1235, said to be in the handwriting of Elizabeth, Queen of Hungary, is said to be preserved in Vienna.[8]

The Inventor of the Remedy: Arnold of Villanova?

André Chauvière (a French expert on perfumes born in 1945) attributes the invention of our remedy to Arnold of Villanova (1240?-1311).[9] He has written in his book *Parfums et Senteurs du Grand Siècle* (1999) on the subject of Hungary Water:

> It is believed that queen of Hungary's water, a distilled water of flowering rosemary sprigs, came to be known in 1370. An ancestor of this water had existed since the 13th century as leaves and flowers soaked in low grade water-of-life, a kind of tincture which Arnold of Villanova used to equate to potable gold in alchemistic jargon.[10]

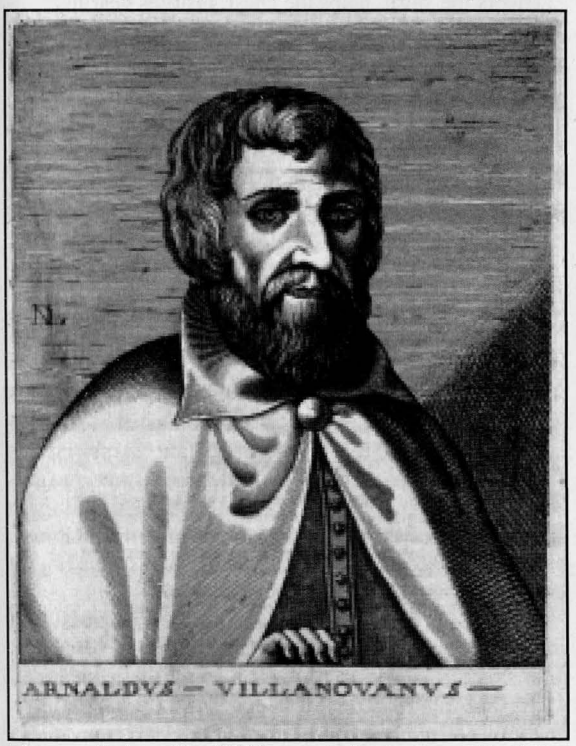

Figure 2. Arnold of Villanova, who between the late the 13th century and the early 14th wrote about a rosemary alcoholate identical to the future Hungary Water. (Wellcome Library, London.)

Arnold of Villanova is the author most often quoted as one of the earliest who revealed the details of alcoholic compositions of rosemary (and rosemary flowers), as well as of distillation by means of the alembic. His name is also associated with *aqua vitae*.

However Arnold himself clearly states in the *Antidotarium* and in *De Conservanda Iuventute & Retardanda Senectute* that both the water-of-life and the distillation were already known to 'the moderns'. Therefore he was not their inventor. In order to verify Arnold's ownership of the invention of Queen of Hungary's Water we have examined and compared a number of editions of his works presumably written between the late 13th century and the first decade of the 14th starting from 1500.

A very short chapter of the *Antidotarium*, a book dealing with medicines used to prevent and fight poisoning and contagious diseases, is entitled *De Distillatione Medicinarum*. It says:[11]

> Some things are distilled from medicinal substances; from old red wine one distils *aqua ardens* which acts powerfully and heals paralysis, constricted plexus and recent wounds rapidly; sometimes medicinal substances are added to its alembic in accordance with the necessity of the disease to be cured.

In *De Conservanda Iuventute & Retardanda Senectute* on the ways of preserving youth and delaying old age we find a chapter, entitled *Sermo super aqua vin*, dealing with *aqua vitae* or water-of-life, which was part of the composition of distilled rosemary. Arnold wrote on this subject:[12]

> Discourse on water of wine, which some call water-of-life, and that I have seen with certainty. And for those to whom it is beneficial, its name agrees well with the substance: to the extent that some of the moderns have said that it is a perennial water and a golden water because of the excellence of its effect. But in truth they have not said how it abounds in heat and dryness, to the point of being almost like fire.

The author lists very many virtues of water-of-life but does not explain how to prepare it by distilling it from wine. He says, however, it should preferably only be kept in golden or possibly glass containers, because otherwise it would penetrate the pores of the material. He also discusses, briefly, the combined use of water-of-life with rosemary to benefit the nerves.

In *De Vinis*, on the use of wine for the preparation of medicines, Arnold states his preference for white wine by quoting Galen; and following a habit that was very common, he adds the opinion of others like Rufus of Ephesus (among the ancient) and Avicenna and Avenzoar (among the medieval Arabs). Then in the chapter entitled *Vinum de Rore Marino*, i.e. rosemary wine, Arnold writes:[13]

> Among its most useful applications there is the one with wine; then with bath; then by making an oil with it that acts as a balm; then by making an electuary with its flowers and *aqua ardens* or water-of-life. Indeed the wine made with it is prepared like the others in accordance with the methods mentioned earlier and has wonderful properties.

And later on he continues by saying:

> Moreover it has been proved, and seen by me, that the water-of-life or *aqua ardens* produced with wine in which the aforementioned herb has been macerated can cure salty phlegm, scabies, cancer and fistula which cannot be healed otherwise. And if the herb and flowers are preserved, and if the hands or the paralysed limb are frequently anointed with it in the heat, they will be straightened and sooner or later healed.

This compound and its virtues, as we are going to see, anticipate very well what would be written in the 17th century about Queen of Hungary's Water.

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Use, Virtues and Effects

The virtues and uses of Queen of Hungary's Water mentioned by the various authors, despite the water's very simple composition, requiring only rosemary and wine alcohol, are very many indeed. It is unusual to find other medicines with so many and so great claimed virtues in pharmaceutical history. However all the authors consulted on the subject are unanimous in their praise of Queen of Hungary's Water.

It should be noted that all the virtues of the Water quoted below were not advertised by charlatans, but have been reported seriously by distinguished authors of medico-pharmaceutical treatises. However some pharmacies between the late 17th century and the beginning of the 18th decided to extol the virtues of their product by printing and distributing leaflets or even pamphlets several pages long. In particular we have come across three leaflets and a pamphlet printed in Italy at that time;[14] and we have also found our Water in the inventory of an Italian pharmacy compiled in 1785.[15]

Hungary Water was used externally, internally and by inhalation, and often by more than one of these methods for the same illness. It could be taken internally by mouth or by placing some drops in the nostrils. Externally it could be used by rubbing the temples and wrists, by applying it to the joints or stomach, by using cotton to place it in the ears or on the gums or by using it to wash the face, throat, arms or hands.

Figure 3. The marchioness Marie de Sévigné (1626-1696), famous for her correspondence. She wrote enthusiastically to her daughter between 1675 and 1690 about Hungary Water which she used both as a medicine and a cosmetic. (Fine Arts Museums of San Francisco, Achenbach Foundation for Graphic Arts, 1963.30.22986.)

We have found the following virtues in the old texts:

> It recovers strength, sharpens the mind, cleans the marrow and nerves, corrects and preserves the eyesight, lengthens the lifespan, comforts and strengthens the stomach, helps the digestion, awakens and strengthens the memory, sharpens the senses, awakens the spirits, strengthens the brain, warms, preserves and revives natural heat, degreases the face and skin, resolves, strengthens the heart, causes sneezing, facilitates childbirth, strengthens and stimulates debilitated limbs, stops blood coagulation, produces appetite, re-establishes the functions of all parts of the body, rejuvenates the elderly, cheers the spirit, helps the chest, restores hearing.

It is also useful for the following illnesses and diseases:

> Paralysis, gout, concussions, bruising, dislocations, apoplexy, epilepsy, vertigo, bad breath, obstructions of the liver, spleen, uterus and other organs, jaundice, leucorrhoea, rheumatism, gangrene, putrid ulcers, colic, deafness, tinnitus, headache, cold pains, burns, fainting, palpitation and weakness of the heart, lethargy, hysterical and nervous illnesses, tumours, cold humours and fluxes, toothache, vapours, pain in the eyes, heartache, stomach ache, cold illnesses of the brain, diseases of the nerves and joints, syncope.[16]

Distilled Rosemary

There are other compositions of rosemary that are very similar to the one by Arnold of Villanova, as regards their very simple preparation and their virtues and use. They had been described before the name of Hungary Water was used, and also later, but without being called by that name. Only the author of one of these compositions made reference to Arnold.

There were also some alcoholic cordials that included other aromatic plants in addition to rosemary. They were drunk for comfort and recreation as well as for medical reasons.

Maud Grieve has quoted several sentences from a 1525 book entitled *Banckes' Herbal* in her *A Modern Herbal* (1931) which includes an interesting history of rosemary. For example:

> Boyle the leaves in white wine and washe thy face therewith and thy browes, and thou shalt have a faire face. [...] If thou have a cough drink the water of the leaves boyld in white wine and ye shall be whole.

These two compositions were no longer alcoholic at the time of use, but wine, according to the author, improved their characteristics above those of a simple water infusion.

A collection of medicinal recipes by the Italian physician Giovanni Battista Zapata entitled *Li Maravigliosi Segreti di Medicina e Chirurgia* was published several times from 1577 by the surgeon Giuseppe Scientia, one of his pupils. It praises the virtues of the author's 'quintessence of rosemary', prepared by distilling rosemary in water and then

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adding sugar and water-of-life, or 'good wine' in its absence. If however this quintessence were not available, the author adds that Arnold's rosemary wine invented long before could be used instead:[17]

> In the absence of our quintessence take some wine, in which some rosemary should be placed, and for this purpose (before this quintessence of ours had been invented) [a water of wine] was composed by Arnold of nuova villa, which is so much praised by him. [...] But being wine a liquor without which the other liquors cannot be made, and having already been written by the same Arnold, we are going to explain it, although we will make it more briefly, and also more effectively, because it is very easy to add some improvement to things that have already been invented.

Then, starting from Arnold of Villanova's method, Zapata explains how wine of rosemary can be made starting from must. For the poor who cannot afford it, he explains that they can simply leave one or two fistfuls of rosemary leaves in a flask of wine for one day, before drinking it. Further on in the same chapter, describing the virtues of compositions of rosemary, Zapata writes this about sores:[18]

> Arnold says, that he has often seen, and proved, that by washing cancers, gangrene, and fistulas with water-of-life, to which he had added rosemary, he had dried and cured them, and had never been possible to heal them in any other ways.

Also Sir Hugh Plat (1552-1611?), an ingenious and curious Englishman with many interests, not long after Zapata - but in a distant country and for a non-medical purpose - described alcoholates of rosemary and other aromatic plants. He did so in his book *Delightes for Ladies* (1611):

> Spirit of Wine, tasting of what vegetable you please. Macerate Rosemarie, Sage, sweete Fennell seeds, Marierom, Lemmon or Orenge pils, &c. in spirit of wine a daie or two, and then distill it over againe, unless you had rather have it in his proper colour: for so you shall have it upon the first infusion without any farther distillation; and some young Alchymists doe hold these for the true spirits of vegetables.

Gervase Markham (1568?-1637), not long after Plat, published a book with a similar subject, *The English Housewife* (1615). There is a chapter on distillation, but for medicinal waters rather than cordials. We find there an aromatic *aqua vitae* and an *aqua composita* with rosemary flowers and many other herbs and spices, both of which are made by distilling the plants with strong beer on a slow fire in an alembic.

Markham also proposes an 'imperial water', but in this case rosemary and the other herbs are first macerated in Gascon wine and then distilled as we have already seen. He also lists its virtues:

> This water comforteth the vital spirits, and helpeth inward diseases that cometh of cold, as the palsy, the contraction of sinews; also it killeth worms, and comforts the stomach; it cureth the cold dropsy, helps the stone, the stinking breath, and maketh one seem young.

These effects are very similar to those of Hungary Water that we have already seen.

Jean Prévost who as we have noted was the first author (so far as we know) who used the name of Hungary Water, had described a rosemary water (without a name for it) in an earlier book. The water was identical to the one that he would later attribute to the Queen.

The book was entitled *Medicina Pauperum* (1641) in the Latin edition and *La Médecine des Pauvres* (1646) in the French one. We have the formula (two parts of sprigs and flowers of rosemary and two parts of rectified water-of-life), distillation as the method for the preparation of the water, and its use (i.e. taking a drachm or a spoonful by mouth once a week and washing the face or the injured limb with it every morning). The reason why the author had decided not to mention the story of the Queen of Hungary in this book is not clear. Perhaps he felt that it was not appropriate for a book written to help the 'poor'.

The highly ranked English cook John Nott (active in the first half of the 18th century) presented another alcoholic rosemary drink in his *The Cooks and Confectioners Dictionary* (1724). It had been created as a pleasant cordial rather than for therapeutic purposes:

> To make Rosemary Water. Take a quarter of a Pound of Rosemary when it is at its Prime, Flowers and Leaves, a Quarter of a Pound of Elecampane-root, half a Handful of red Sage, six Ounces of Anniseeds, and one Ounce and a half of Cloves; beat the Herbs together, and the Spices each by themselves, put to them a Gallon of White-wine; and let them stand a Week to infuse, then distil them in Balneo Mariæ.

The use of alcoholic preparations of rosemary has been mentioned, in recent times, by the British botanist Maud Grieve in her *A Modern Herbal* (1931). Alongside some references to the actual Hungary Water we can find a Rosemary Wine made with green sprigs and white wine (as a quieting cordial for a weak heart subject to palpitation and to stimulate the kidneys and nervous system) and a Spirit of Rosemary to be used as an antispasmodic.

For two further illustrations see inside back cover.

Acknowledgement

The authors, who are not native English speakers, wish to thank Michael Taylor for revising the text.

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End Notes and References

1. Prévost J. Selectiora Remedia. In *Tractatus: de Remediorum cum Simplicium tùm Compositorum Materia*. Frankfurt: Joannes Beyerus, 1656.
2. Translation taken from *A History of Inventions and Discoveries* by Johann Beckmann (London, 1797).
3. A Queen of Hungary's Ointment had been described earlier in the booklet *Opera Nova Piacevole [...] Intitulata Venusta* (1551) by Eustachio Celebrino, but it is a cosmetic for ladies with a complex formula containing several animal fats. Therefore the similarity between its name and that of our 'Water' appears to be purely accidental.
4. Who, however, did not reach the age of 72.
5. But she died at 62 and would have written her story after it had already been divulged by Prévost's sons.
6. Note 2.
7. Semi-anonymous author of the curious *Nouveau Recueil de Curiositez Rares & Nouvelles* (1685).

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8. We do not know where Grieve found the date 1235, which roughly matches the time of Saint Elizabeth, who however had died four years earlier.
9. Arnold was the first or the most important author on the distillation of medicinal substances, including the alcoholic ones and particularly the distillation of rosemary flowers.
10. However Arnold's comparison, as we have verified, only applied to water-of-life and potable gold, without any reference to rosemary.
11. *Opera Arnaldi de Villanova*. Lyons: Balthasar de Babiano per Franciscum Fradin, 1504: 313r.
12. Reference 11: 89r.
13. Reference 11: 305rv.
14. *Proprietà della Vera Acqua Detta della Regina d'Ongheria; Le Virtù Mirabili dell'Acqua della Regina d'Ungheria; Le Virtù dell'Acqua della Regina d'Ongaria; Le Grandi, e Maravigliose Virtù dell'Acqua della Regina d'Ungheria - Les Vertu' Admirables de l'Eau de la Reine d'Hongrie*.
15. *Inventario della Spezieria da Medicine D. Paolo Caresta*, 1785.
16. These two lists have been compiled using works by Nicolas Lefèvre (1660-1751), Jean Prévost (1666), Christoph Glaser (1668-1672), Nicolas Lémery (1675-1764), Moyse Charas (1676-1684), Thomas Corneille (1694), Giovanni Battista Capello (1763), Samuel Tissot (1782) and others.
17. Zapata G.B. *Li Maravigliosi Segreti di Medicina e Chirurgia*. Turin: Heredi del Bevilacqua, 1580: 9-10.
18. Reference 17: 26.

Review

Chemistry, Pharmacy and Revolution in France 1777 to 1809

Jonathan Simon, 2005. Aldershot, Hants: Ashgate Publishing Ltd: pp. 189. Hardback price £18.50. ISBN: 0 7546 5044 8

In France, the last decades of the eighteenth century were a momentous time, not only for politics but also for both pharmacy and chemistry. The French Revolution acted as a catalyst for change in all walks of life. This book explores the complex and dynamic interaction between pharmacy, chemistry and revolution during this period.

The book appears as part of the Ashgate series on Science, Technology and Culture 1700 to 1945. It covers a narrow period, from 1777 when the Parisian guild of apothecaries founded the College de Pharmacie and began calling themselves pharmacists, until 1809, when the *Bulletin de pharmacie* made its first appearance. But in 1789 the French Revolution brought with it major institutional and social changes that challenged traditional ideas about the role and place of pharmacy in society.

These political events coincided with a chemical revolution, usually associated with the name of Lavoisier, that was to have a dramatic effect on how French pharmacists viewed both themselves and their art. The rise of chemistry was seen very much as a philosophical pursuit rather than one having essential practical applications, but until the eighteenth century pharmacy and chemistry were largely indistinguishable. Lavoisier himself considered pharmacy to be an irrelevance.

The central argument of the book is that chemistry, which had previously been viewed as an integral part of pharmacy, distanced itself from any medical applications because it feared that these links were holding chemistry back. The result was a definitive split between pharmacy and chemistry at the end of the eighteenth century. The upheavals caused by the French Revolution provided the stimulus for these social, institutional and intellectual redefinitions to occur.

The argument is well constructed and the author presents his case convincingly. The evidence provided is derived from primary sources, and extensive footnotes are provided. The book consists of six chapters. The introduction describes the early history of pharmacy in France and locates it within a wider history of science.

The second chapter describes the creation and rise of the French pharmacist. This includes the founding of the College de Pharmacie in Paris, and introduces us to some of the key players in the story, most notably Antoine-Francois de Fourcroy, one of Lavoisier's collaborators. Fourcroy played a crucial role in persuading the pharmacists to embrace the new chemistry, and hence provide a scientific basis to their profession.

The third chapter describes the evolution of pharmacy from its early days to the idea of pharmacy as 'philosophical chemistry'. We hear about the roles played by individuals including Glaser, Lemery, Venel, Macquer, and Lavoisier and his new system of chemistry. Chapter four introduces us to the 'new chemistry'. It explores the impact of Fourcroy's teaching, how medicine came to be illuminated by the physical sciences, and the origins of revolutionary reform in medical education.

The fifth chapter considers the emergence of the new pharmacy, and particularly the appearance of the first generation of chemical pharmacists. It includes the launch of scientific publications relating to pharmacy (*Journal de Pharmacie* and *Bulletin de Pharmacie*) and its teaching in the Ecole de Pharmacie. The final chapter offers some concluding remarks on the pharmaceutical revolution in France, and its relationship to both the chemical and political revolutions.

The book addresses some fundamental issues about the history of pharmacy itself. Why were certain activities judged to lie outside the new science of chemistry? Why is it that history of pharmacy is considered to fall outside the remit of mainstream history of science? What is the relationship today between the history of pharmacy and the history of chemistry, the history of botany, of microbiology and of pharmacology? Is the history of pharmacy little more than the history of professionalisation of an occupational group and its activities?

In recent years there have been some limited moves to bring together the history of chemistry and the history of pharmacy. Interest in the former is on the decline, whilst the latter is attracting increasing attention. But whilst there is a rich tradition of intellectual history in chemistry, the history of pharmacy takes a more social and economic history perspective. What is emerging is perhaps a more social and cultural history of chemistry on the one hand, and a more intellectual history of pharmacy on the other.

This is a thoughtful and well-written book that deserves to find a place on the shelves of all serious historians of pharmacy, and particularly those with an interest in the history of pharmacy in France. **Stuart Anderson**

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Second International Congress on the Iconography and Cult of Saints Cosmas and Damian, 29th September and 1st October 2006

Saints Cosmas and Damian are considered to be the patron saints of physicians and pharmacists. The Christian Arab brothers spent their lives healing the sick, and were known as anargyroi, 'the silverless', because they did not accept any payment for their services.

The Congress is being organised under the auspices of the International Society for the History of Pharmacy, the Académie Internationale d'histoire de la Pharmacie, the Federazione degli Ordini dei Farmacisti Italiani, the Accademia Nazionale delle Scienze Lettere ed Arti di Modena and the Accademia di Storia dell'Arte Sanitaria.

This Congress presents an opportunity for researchers of the iconography and the cult surrounding these two saints to present their studies, which delve into various aspects, such as the tools and garments as represented in paintings and sculptures throughout the centuries, in relation to the professions they personified.

The diffusion of this cult from the East towards the West passed through the Mediterranean. Thus it is appropriate that the region where this Congress will be held is scenic Irpinia, in Southern Italy, in the Irpinian localities of Mercogliano, Altavilla and Nusco. This is also an opportunity to explore and discover the culture, traditions and art of some of the most beautiful and inspiring areas of Irpinia.

Twenty seven different oral presentations, by researchers from Italy, France, Germany, Greece, Switzerland, Norway, are to be made during the Congress. The abstracts of these presentations are available on-line, together with the programme, on the websites of the major European societies for the history of pharmacy, as well as from the website of the International Society for the History of Pharmacy, and Italian websites.

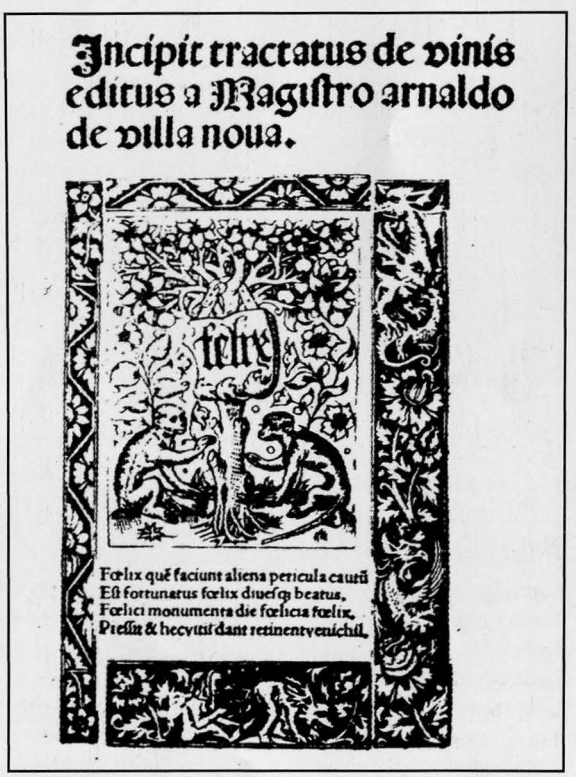
On the occasion of this Congress, there will be an exhibition 'The Saints Cosmas and Damian: History, myths and legends' at the Institute of the Benedictine Nuns of Montevergine in Mercogliano. The exhibition will include descriptions of religious manifestations of this cult in traditional prayers and holy pictures and will remain open until 1st October 2006. A catalogue on CD will be published (for more information kindly send an e-mail to Amelia Nevola or Rita Testa at congresso@irpiniablog.org).

The proceedings of the Congress will also be published (for more information kindly send an e-mail to Patrizia Catellani at patcat@interview.it).

For further information visit www.irpiniablog.org or kindly contact the organising secretariat at congresso@irpiniablog.org or on fax no. 0039 0825 788795.

Isabella C. Grima

Title-page of the 1532 edition of the *Opera* by Arnold of Villanova. (Gallica collection of the Bibliothèque Nationale de France.) See p. 49.



Frontispiece of a 1500 edition of *Tractatus de Vinis* by Arnold of Villanova, where rosemary wine is described. (Gallica collection of the Bibliothèque Nationale de France.) See p. 49.

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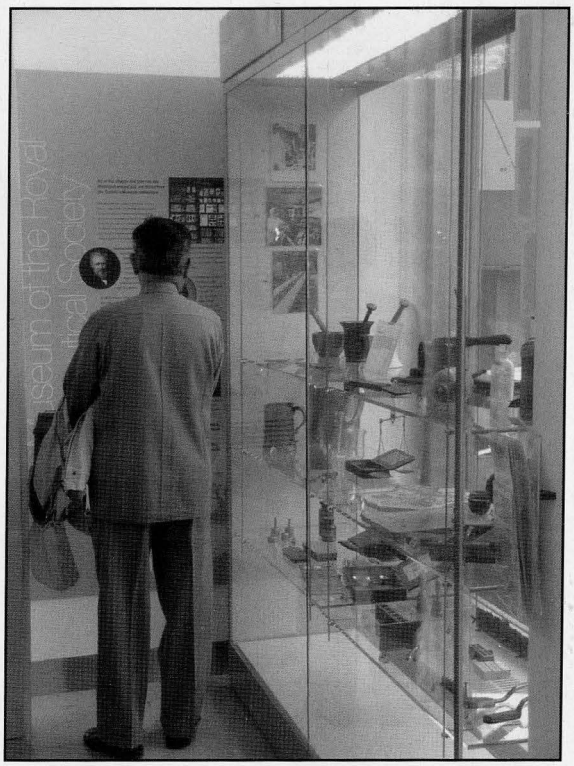

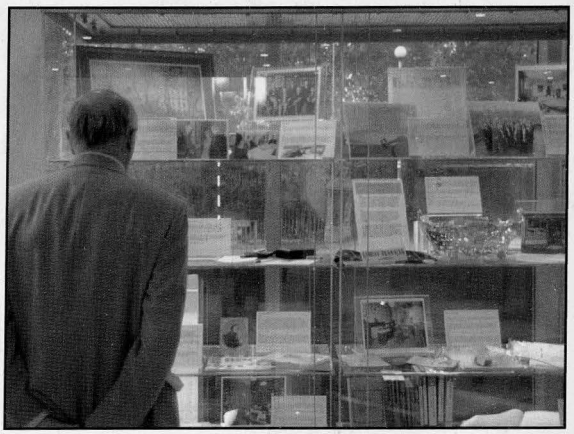

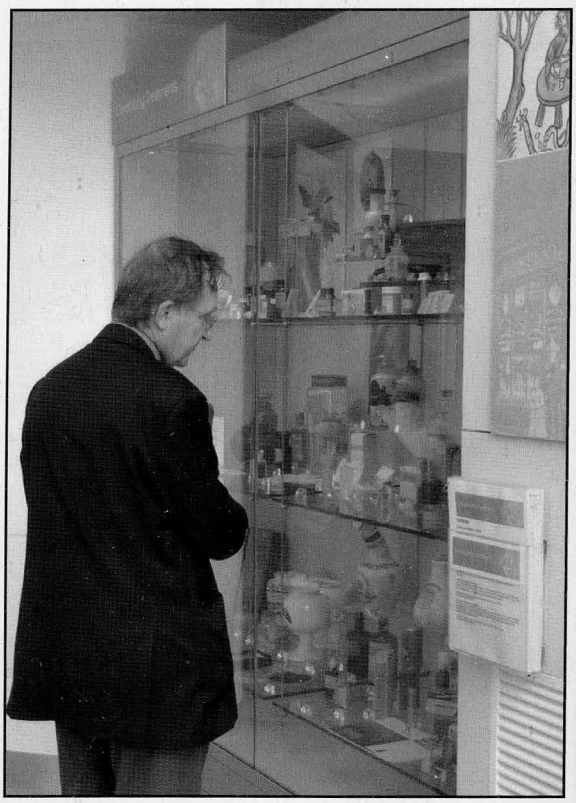

Visitors to the joint meeting with the Society of Apothecaries in June 2006 examine the new Museum displays in the entrance hall at Lambeth

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British Society for the History of Pharmacy

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The British Society for the History of Pharmacy was formed in 1967 under the aegis of the Pharmaceutical Society of Great Britain, having originated from its History of Pharmacy Committee.

BSHP seeks to act as a focus for the development of all areas of the history of Pharmacy, from the works of the ancient apothecary to today's ever changing role of the community, hospital, wholesale or industrial pharmacist.

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Promotion of historical studies related to pharmacy.
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PHARMACEUTICAL HISTORIAN

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Friday 30 March - Sunday 1 April 2007
Annual Spring Conference, Wakefield
The 2007 BSHP Conference will be held at the Waterton Park Hotel near Wakefield, West Yorkshire from March 30th to April 1st. Details to follow.

Wednesday 9 May 2007
'Electricity and the Enlightenment' by Dr Nicholas Cambridge. Lambeth 6.30 p.m.

5 to 8 September 2007
22nd Congress of British Society for the History of Medicine, at at West Park Centre University of Dundee, Scotland. See *www.bshm.org.uk*

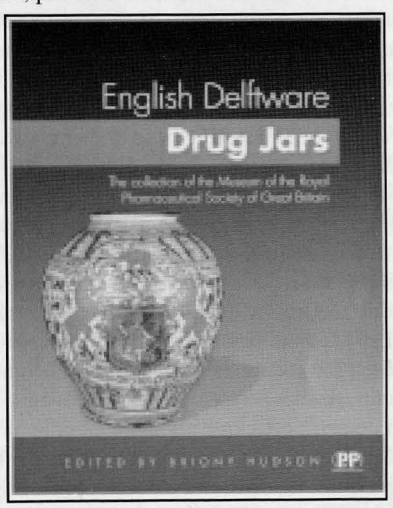
Wednesday 19 September to Saturday 22 September 38th International Congress for the History of Pharmacy 'Drugs and medicines from both sides of the Atlantic Ocean'
To be held in NH Central Convenciones Hotel, **Seville**, Spain. Further details from: Prof. Dr. Esteban Morena Toral, Historia de la Farmacia, Facultad de Farmacia, C/ P. garcia Gonzalez 2, 41012-Seville, Spain (email *toral@us.es*, or fax +34 5954556726. For preliminary programme see *www.govi.de/sevilla.htm*

Wednesday 14 November 2007
'Pharmacy, Quackery and the Growth of medicine in early modern England' by Patrick Wallis.

Review

English Delftware Drug Jars: The collection of the Museum of the Royal Pharmaceutical Society of Great Britain.

Briony Hudson, Keeper of the Museum Collections, Royal Pharmaceutical Society of Great Britain, 2006. London: Pharmaceutical Press: 272 pp. 246 x 189 mm, Hardback, price £95.00. ISBN 0 85369 643 8



It is 75 years since the appearance of Geoffrey Elliot Howard's *Early English Drug Jars*, the first and, until now, only book on the subject. The arrival of *English Delftware Drug Jars: The collection of the Museum of the Royal Pharmaceutical Society of Great Britain* is very welcome. This is an excellent survey, taking into account the most recent research. Every. English delft drug jar, pill tile, barber's bowl, posset pot and porringer in the collection is beautifully photographed in full colour. This is a great improvement on previous publications, where black and white illustrations gave no hint of the charm of these vessels for the apothecary. Each item is described by its simple name e.g. wet drug jar), accession number , physical description, design, inscription and its meaning, contemporary accounts, date and place of manufacture, dimensions, provenance, condition, comments and references. Notes on abbreviations, symbols, apothecaries' weights, and a glossary of contemporary medical terms are included. A minor printing error has crept into the catalogue, where

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the simple names of a small number of wet and dry drug jars have been transposed. This offers no problem to the reader, as the photographs, accession numbers and text make plain what the titles should be.

The importance of the Society's collection is explained by Alan Humphries in his foreword. Though not the largest collection of the 1992 jars surviving worldwide so far traced in Mr Humphries' researches, the Society's 172 jars represent a wide range of designs, inscriptions and sizes, and include a number of unique and very important items. The collection contains 40 of the known 175 dated jars, and 3 of the 7 known pill tiles, and forms an invaluable reference tool.

Briony Hudson explains how the collection came about, starting with the donation in 1938 of three cherub and shell wet drug jars by J.T. Appleton. The most important factor shaping the collection came in 1940, with the appointment of Agnes Lothian as librarian with charge of the historical collections. She persuaded the Society to purchase collections such as Howard's, the 1647 display jar, the Thomas Fautrart pill tile of 1670, amongst many others. The provenance of so many items in the catalogue shows how she built up the collection by purchase and attracting generous gifts, between 1940 and her retirement in 1967. She was a world authority on the subject, and gave unstinting help and encouragement to collectors and students.

There is little information about drug containers in England until the 17th century. In his essay on the development of English delftware drug jars, Bill Jackson discusses this and the arrival of tin-glazed wares and their production in England, Ireland and Scotland from the late 1560s to the first half of the 19th century. The early 'vessels for poticaries' were plain or decorated with simple lines, dashes, chevrons or curves. Jars labelled with their contents appeared about the middle of the 17th century. Many designs were in use over the next hundred years: pipe smoking man; ribbon cartouches; angel with outspread wings; song birds; Apollo; cherub with trumpet; cherub and shell; transitional styles and others. The significance of these designs is considered. Mr Jackson emphasises that there was no steady progression from one design to another. Several were in production at the same time, and the same design was used by several potteries. A useful check list of dated designs is given.

English Delftware Drug Jars is a valuable and handsome addition to the subject, which should be welcomed by collectors, historians and students of ceramics and medical and pharmaceutical history. Seventy-five years ago, Geoffrey Howard dedicated his book to his wife 'who gave me my first drug jar and has regretted it ever since'. This volume is dedicated 'In memory and admiration of Agnes Lothian Short. The Royal Pharmaceutical Society's historical collections, and the English delftware collection in particular, are founded on her hard work, enthusiasm and expertise.' It is a fitting tribute.

D. Ann Hutton

Pharmacy and the population explosion

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About fifty years ago, concern was expressed in pharmacy about the world's rising population Since then, however, the rise has continued inexorably. The human population of the globe is currently about six billion and could be nine billion by mid century.

The reality of global warming is becoming increasingly admitted, and recognised to be a result of human activity in terms of consumption of the earth's resources of crops, coal, oil, gas and minerals. It may be remembered that tuberculosis, characterised by a wasting away of the tissues of the body, was once commonly called consumption Likewise, the irreplaceable resources of the earth are wasting away, or rather, being consumed and disappearing at a rate clearly related to the size of the human population, a size that has increased enormously (though the rate of increase may now be slowing). Worse still, our economic policy makers are still wedded to the concept of a continuing expansion of gross domestic product year by year. Moreover, the so-called Third World is endeavouring to emulate the living standards of the First World.

Perhaps, as historians, we should recollect that a long leading article in *The Times,* of November 20, 1971, dealt with the 'message' from ecologists, environmentalists and conservationists, that "the interaction of population growth and industrial growth is rapidly bringing mankind to the point at which it will be knocking against the limits of the planet's resources". It added that "simultaneously the waste products of this accelerating consumption are overwhelming the reactive system of degradation and absorption that maintains the equilibrium of nature".

In the early 1940s the population of the Indian subcontinent was 400m. It is now over a billion. China's population is well over a billion, and, according to Jared Diamond, in his 2005 book *Collapse*, China's population doubled between 1953 and 2001. China's population growth has been restrained by limitation of family size and enforced abortion.

What about Britain? In 1941, the population was about 47 million. By 2031 it could be approaching 70m. The population of Kenya has been rising at the rate of 4.1 per cent a year, producing a doubling of the population every 17 years. It is not surprising that some areas are facing famine.

It is said in the recent book *Collapse*, referred to above, that Third World families of four to eight children lament that they have heard of the benign forms of contraception widespread in the First World, and they want those measures desperately for themselves, but they can neither afford nor obtain

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them, due in part to the refusal of the United States government to fund family planning in its foreign aid programmes. Which brings us to the real reason for this article.

It was in 1958 that the relevance to pharmacy and medicine of over-population was pointed out by the distinguished physician and medical scientist Sir Henry Dale (who was for 23 years an honorary member and fellow of the Pharmaceutical Society).[1]

Giving the inaugural address at the opening of the 117th session of the School of Pharmacy of the University of London, he enunciated a task for pharmacy and medicine, namely, the solution of the problem of birth control in a world threatened by over-population brought about by the very success of pharmacy and medicine in perfecting 'death control'.

He said that modern medicine, by its very success, seemed destined to produce a more insidious, but no less certain, peril to the permanence of our human race, if they just left things to continue on their present course. Those warnings had to do with what could be foreseen as inevitable effects, upon world conditions, of medical practice and policy at their ethical and scientific best, if they allowed medicine to pursue much longer, with an unbalanced, one-sided benevolence, its mission for the preservation of life.

Dale went on to say that in the first 16 centuries of the Christian era the population of the world, it had been said, had only doubled, and then quadrupled itself again in the next three and a half centuries down to the present day [the mid 20th century]. It was predicted that the present [1958] population of the world (2000m) would double itself again in about the next half century. [It had, in fact, trebled to 6000m by 2003 and is expected to reach 9.5b by2050.]

Continuing his address, Dale said: "It is surely proper to recognise the major share which medicine and pharmacy must accept of the responsibility for the prospect of an ultimate imbalance between the world's population and its material resources. Is anybody going to suggest that researches in medicine and pharmacy should be halted, or that the applications of what they have already made available, and will continue to offer for the still more effective mastery of disease and saving of life, should in any way be restricted? I think that we may regard it as certain that nobody will tolerate the idea of preventing the eventual over-population of the world by withholding the ever more effective means for the preservation of post-conceptional lives. . . . That being so, medicine and pharmacy must find some other way of meeting their share of responsibility for the imbalance which they are so efficiently helping to create, and for the ultimate human tragedy which it threatens; and the only way left open to them seems to be an extension of their proper and recognised function to the regulated control of the production of new lives, for the preservation of which when once they have been produced, they will still be bound to use their best available and ever improving knowledge and means."

Such an extensive argument in favour of medical research may seem strange to the present generation. However, they have to be set against the undoubted harm that has resulted from such research in terms of unsupportable expansion of the human population. So, Dale argued that those responsible for medical invention had to balance preservation of life with curtailment of birth by application of science to the development of contraceptives. Hence the emergence of the oral contraceptive. Indeed, a leading article in the *Pharmaceutical Journal* accompanying the report of Dale's address in the same issue discussed the state of research on the oral contraceptive, and ended: "The above brief summary shows that a great deal of work is in fact in progress but that before an oral contraceptive that satisfies the requirements of cheapness, simplicity, safety and effectiveness is discovered, much more research is likely to be needed."

Incidentally, that leader caused the then Secretary and Registrar of the Society (F.W. Adams) to complain about it to me in the absence of the editor. I had, in fact, written the offending article. To my puzzlement, Adams concluded by warning me wrongly that the article would cause trouble. In hindsight, I realised that his intervention had to be seen in the light of the then prevailing culture against the practice of abortion. Indeed, it was a time when abortion could be a criminal offence with severe penalties as well as a medical necessity on occasion. Anyone who supplied any drug or instrument for the purpose could be punished. So, that was a matter of great concern to pharmacists in my young day. Hence, Adams's understandable, if somewhat knee-jerk, reaction to the leader.

The oral contraceptive is, of course, only one line of approach, and all the intelligence at humanity's command will be needed to achieve co-ordinated policies, as opposed to the present conflicting and misguided ones that exacerbate the problem of over-population.

It has to be accepted that a spontaneous reversal of the population trend cannot be ruled out, but equally, such an outcome should not be relied upon.

If it is indeed responsible for global warming, a reduction in numbers would help. Finally, to emphasise a point I made earlier, economists look to an ever expanding wealth of nations, aided perhaps by an ever expanding population.

Only Nature puts a lid on things.

Reference

1. Dale, H. Pharmacy and modern therapeutics. *Pharm J* 1958; 181: 292-4.

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Stones for the Stone : minerals and fossils in the treatment of renal calculi

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Sutton

The bulk of renal calculi are calcareous stones (usually calcium oxalate or, less commonly, struvite) formed in the kidneys and bladder.[1] It is obviously a disease that has affected mankind throughout history; although not common at archaeological sites, specimens of bladder stone have been associated with skeletons in, for example, pre-dynastic Egyptian mummies, British Bronze Age burials and the Jebel Moya site in the Sudan.[2] An affliction which is no respecter of persons by age, sex or social standing, it has been described as 'this appointed torturer and well-deserved avenger of the primordial transgression' by Alexander Carolus Curtius, Lithuanian doctor and founder in 1659 of the First Latin School of New Amsterdam in Manhattan.[3] Benjamin Franklin (1706-1790) suffered from 'the stone', being thoroughly disabled by its effects just prior to his death. Napoleon Bonaparte (1769-1821) experienced bouts of dysuria associated with bladder stones, especially at the Battle of Borodino and during the Russian Campaign of 1812, with further debilitating attacks whilst he was in exile on St Helena.

'Sir' John Hill (c.1716-1775), who began his career as apprentice to an apothecary and developed into an indefatigable writer, remarks that, 'Human nature is liable to no Disease more terrible than the stone; nor are the lesser stages of that malady exempt from pain or danger.'[4] He goes on to describe the symptoms that mark the progressive onset of 'the stone':

1. 'a pain after making water; this is felt in the extremity of the part, which seems as if it were cut with a knife.'
2. 'a peculiar kind of colick, attended with an inclination to go to stool, but without the power of voiding anything.'
3. 'nausea and sickness of the stomach, a numbness down the thigh on that side where the stone lies, and a violent pain in the back.'
4. 'the pains in the back become intolerable; and the sickness causing a continual reaching and vomiting, all the other symptoms are aggravated, and in the end, without the assistance of medicines, or in spite of bad ones, a stone is discharged so large, that it gives pain in the passage, and is heard falling into the pot.'

The sense of hopelessness for victims of the stone is captured poetically by the 16th century writer, Walter Carie as follows:[5]

Thy silver, gold, thy precious stone,
Thy mucke, thy worldlie wealth,
Nought helpeth now thy grievous grone,
No ease it gives, no health:

Now doth thou lie
Amidst thy friends a prisoner,
A piece of pining claie,
Thy hope for want of hearts desire,
Doth faile and fade awaie:

Thou seek'st to die
Thy friends eie tears, thy hart drops blood,
Thy lims and joints do quake,
Thy stomach vomits that is good,
Whose force makes bedsted shake:

An endlesse wo
Thy doleful life to thee is death,
And death were life to thee,
For paine doth cease with thy last breath,
And life heaps miserie.

Likewise, an ancient Italian poem by Ciri de Pers states:

Other white stones serve to mark happy days,
But mine do mark days full of pain and gloom.
To build a palace or a temple fair,
Stones should be used; but mine do serve
To wreck the fleshy temple of my soul

Well do I know that Death doth whet his glaive
Upon these stones, and that the marble white
That grows in me is there to form my tomb.[6]

Samuel Pepys (1633-1703) famously opted for surgical intervention in the form of a lithotomy on 26th March 1658, and was delighted both to survive the operation and to be presented with a stone the size of a tennis ball which had been extracted from his bladder.[7] Lithotomies were the solution of last resort. An undignified operation involving rectal probing of the stone followed by extraction through an incision in the perineum, it presaged much pain for the patient and considerable risk of death; mortality rates from the procedure were as high as 40% during the 18th century.[8] In 1710, John Greenfield wrote:

> Whoever should expose People to that exquisite Pain, and immediate danger of their Lives, which are both so unavoidable in the Operation of Lithotomy, ought to die no other way, than by the Hands of the Common Hang-Man .... that is, if stone-dissolving remedies should be had.[9]

And there lies the crux of the problem – might it be possible to dissolve and disperse the stone by the use of medicines, rather than to condemn a patient to a world of pain in the absence of treatment, low prospects for survival if a lithotomy were to be performed, and dwindling numbers of surgeons if Greenfield's advice were to be followed ?

Geological Materials

Fossils are some record of the life of the geological past. Although gathered and used decoratively by Early Man[10] and written about since classical times, the true nature of their origin was only settled in the late 18th century, after a long history of debate.[11] Geological materials have a long history of use both in folk medicine and by professionals, but have received little attention in the literature. In historical times their application was based upon the same Aristotelian principles that determined the diagnosis and treatment of disease states in medicine.[12] As with herbal simples, the medicinal use of minerals, rocks, earths and fossils relied heavily upon the burgeoning authority of classical authors, with some additions and glosses from mediaeval and early

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renaissance scholars before a more critical and empirical approach saw their use gradually decline toward the end of the eighteenth century. This paper will consider three of the most commonly used 'stones' in the historical treatment of urinary calculi.

Lapis Nephriticus – the Nephritic Stone

Probably the most famous geological material employed in the treatment of renal problems was lapis nephriticus – the 'nephritic stone', generally identified as the mineral nephrite. This is a fine-grained representative of the silicate mineral actinolite, which is one of the components of jade. Nicholas Monardes (c.1512-1588), the highly distinguished Spanish physician who practised for much of his life in Seville and reported on many of the newly imported plants and other raw materials from the Americas, appears to be the first to introduce this mineral into the apothecaries' lexicon. He reports that the 'Indians' use nephrite amulets bound upon the arm against passing renal stones. Indeed, he records that:

> This stone has an occult property, by means of which it exercises a wonderful prophylactic effect, preventing the occurrence of nephritic pain, and should it nevertheless ensue, removing or alleviating it. The duchess my lady, having suffered three attacks of this malady during a short period, had one of these stones set in a bracelet and wore it on her arm, and from the time she put it on, she has never felt any pain, although ten years have past. In the same way it has served many, who have realized the same benefit.[13]

In his account of his travels in Guiana published in 1596, Sir Walter Raleigh refers to the 'Amazones' tribe who were bent on exchanging gold plate for 'a kinde of greene stone, which the Spaniards call Piedras Hijadas [jade], and we use for spleene stones and for the disease of the stone we also esteem them.'[14]

Caspar Bartholin (1585-1629), Professor of Medicine at Copenhagen, recommended that four local dignitaries wear the stone. He remarks that the two who died whilst wearing the mineral suffered from complaints other than urinary calculi, thus confirming the efficacy of nephrite. His attempts to ameliorate his own symptoms were less effective however. Relying on its success elsewhere he suggested that his own renal stones must have been too hard and flinty for the nephrite to be effective.[15] The mineral was extremely popular in Denmark at the time that King Christian IV (1577-1648), who succeeded to the throne at age 11 on the death of his father. Christian, wore a specimen (still preserved in the Royal Danish Collection at Rosenborg Castle in Copenhagen (Figure 1) throughout his life.[16]

Johannes de Laet (1542-1649), Director of the Dutch West Indies Company, naturalist and cartographer was likewise most impressed with the mineral as, bound upon his wife's wrist, he notes that it gave her much relief from the pains of renal calculus.[17] Indeed, he eventually passed the specimen on to his friend Ole Worm (1588-1654), personal physician to Christian IV, for his famous Kunstkammer.[18]

Vincent Voiture (1597-1648), a poet killed in the Fronde civil war in France, suffered abominably from 'the stone'. Mademoiselle Paulet, a fellow sufferer, gave

Figure 1. Amulet worn by King Christian IV.
Courtesy Royal Danish collections.

him a jade bracelet to ease his pain. In his letter of reply, Voiture wrote that

> If the stones you have given me do not break mine, they will at least make me bear my suffering patiently. And it seems to me that I ought not to complain of my colic, since it has procured me this happiness ![19]

Lapis Judaicus – the Jews' Stone

Pedanus Dioscorides (c.40-90) introduces this stone as being about the size of a chick pea, phallic in shape and ornamented by a series of longitudinal striations. He recommended that it be powdered and drunk in warm water in order to ease dysuria and to break bladder stones.[20] The name comes from the fact that he believed them to grow in Judea; indeed, the Middle East seems to have been a centre for export of these simples right through to the mid-seventeenth century. Extant specimens in the surviving medical drawers of Sir Hans Sloane (1660-1753), physician to the great and the good of London society and eclectic collector, reveal that the Lapides Judaici are actually the spines of the fossil sea urchin, *Balanocidaris glandifera* (Figure 2).[21]

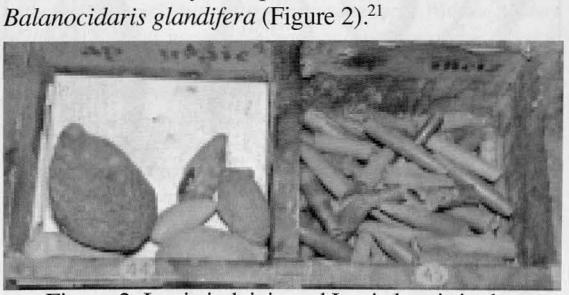

Figure 2. Lapis judaicis and Lapis lyncis in the medical drawer belonging to Sir Hans Sloane, in the British Museum.

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This is further confirmed by the earliest figures of these stones by Conrad Gesner (1516-1565), the famous Swiss polymath, physician, natural historian and prolific writer (Figure 3), published in 1565 (Figure 4).[22]

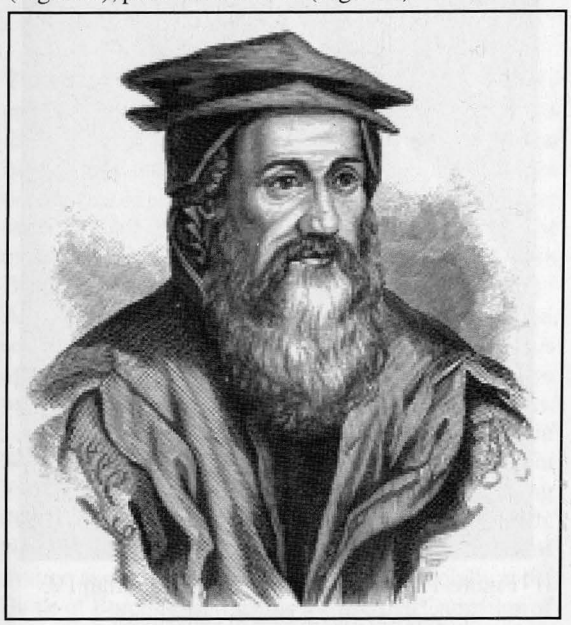

Figure 3. Portrait of Conrad Gesner (1516-1565)

As the species name suggests, the spines of this Jurassic echinoid are indeed phallic in shape. Their medicinal use is based upon sympathetic magic – the tenet that 'like cures like' (similia similibus curantur), a fundamental application of the Doctrine of Signatures. *Balanocidaris* spines are particularly common in Late Jurassic rocks from the flanks of Mount Hermon which forms part of the Anti-Lebanon range along the current Syria-Lebanon border.

Pliny (23-79AD) refers to the same fossil as 'Tecolithos' and recommends sucking the stone as a means of dispersing bladder stones.[23] Galen (129-200 AD), surgeon to the gladiators at Pergamon and later imperial physician in Rome, similarly recommended the 'Judaean Stone' against stones in the bladder.[24]

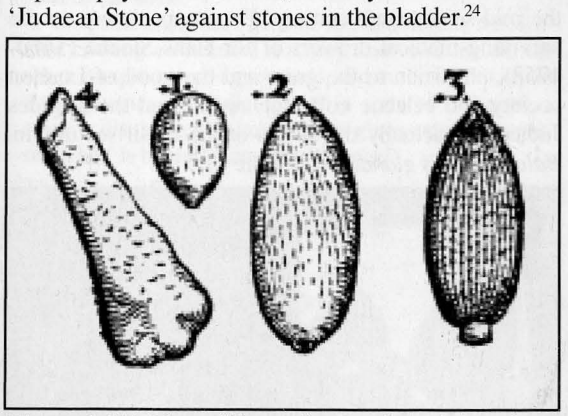

Figure 4. Woodcuts illustrating Lapis Judaicus from Gesner (1565)

Grounded firmly in the authority of classical authors, mediaeval scholars such as Marbode of Rennes (1035-1123), Vincent de Beauvais (c.1190-1264) and Konrad von Megenburg (1309-1374) faithfully repeated advice on the use of Lapis Judaicus, a tradition that extended unbroken through the mediaeval lapidaries.[25]

By the early seventeenth century, Lapis Judaicus was being ground with other minerals, parts of animals and a whole swathe of herbal ingredients and then dissolved in a suitable solvent designed to be taken as both a prophylactic and a cure for urinary calculi. The most diverse and extensive recipes are given by Christopher Wirtzung (1500-1571), physician friend to Gesner, and Johann Jacob Wecker (1528-1586), a Basel Physician.[26] The additional ingredients in these confections included items such as ashes of burnt scorpions, Buck's blood, burnt glass, Pike jaws, Medlar stones, calcined Hare and Mithridatum. Administration of the prescription varied from daily doses to monthly applications.

Camillus Leonardus dedicated *Speculum Lapidum* (Mirror of Stones) to his master, Caesar Borgia, and recommended in it that Lapis Judaicus be taken to dissolve kidney stones, clear the bladder from gravel, and easing strangury.[27] By the time the English translation of this work was published in 1750, the prescription of Jews' Stones was falling into decline, although seventeenth century authors such as Nicholas Culpeper (1616-1654), Pierre Pomet (1658-1699) and Moses Charas (1619-1698) were pleased to recommend its use.

'Sir' John Hill suggested that the Jews Stone might work on the basis of its 'weight'; even though suspended in a draught of water or other medium, as it passed the kidney it might attract any small stones forming there, taking them away with it.[28]

In India and the Middle East, the Lapis Judaicus has a long pedias ee of use, right up to the present day. Avicenna (980-1037), Moses Maimonides (1135-1204), and Ibn al-Baytar (1179-1248) all cite the use of Jewstones, and they have been found on sale in the modern local bazaars and markets used by a number of minority ethnic groups in Israel, the Kingdom of Jordan and Pakistan.[29] It is even possible to buy medicinal specimens from India today via the internet.[30]

Lapis Lincis – the Lynx Stone

The earliest record of this stone is that of Theophrastus (372-287 BC), native of the Greek Island of Lesbos and fellow student with Aristotle under Plato.[31] The Lynx stone, also known as Lyncurium, was believed to be the solidified urine of the European Lynx (*Felis lynx*). The lynx, realising the inherent value of its petrified urine guarded its treasure jealously and buried it rapidly from prying eyes. Amber, yellow varieties of tourmaline and red zircons (hyacinth or jacinth) have all been proposed as potential candidates for Lapis Lincis, largely on the basis of colour. The medical drawers of Sir Hans Sloane show that contemporary specimens were actually fossil belemnites. These are the bullet-shaped calcareous skeletons of now extinct Jurassic and Cretaceous cephalopods which were closely related to modern cuttle-fishes (Figure 2).

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Figure 5. A belemnite figured as *Lyncurium vulgaris* by Valentini (1704).

Conrad Gesner was the first to figure fossil belemnites, which he placed into his 5th Class of fossils – those that resemble certain artificial things, in this case darts. He makes the comment that they were, in the mid-sixteenth century, used medicinally as lynx stones.[32] Anselm Boetius de Boodt (c.1550-1632), imperial physician to Rudolf II, considered that belemnites were the most likely candidates for Lynx stones because, when broken, burned or bruised, they emitted a smell like that of cat's urine,[33] a test confirmed by Robert Plot (1640-1696), first Keeper of the Ashmolean Museum and Professor of Chemistry at Oxford University, on the basis of specimens found in the Oxfordshire Jurassic.[34] Furthermore, Michael Bernhard Valentini (1657-1729), physician to the Prince of Hessian and Professor of Medicine at Geissen University, described and figured belemnites as *Lyncurium vulgaris* in the catalogue of his Natur und Minerialien Kammer (Figure 5).[35]

Pliny was rather doubtful about the existence of the stone, let alone its supposed ability to break up bladder stones,[36] but Hildegard von Bingen (1098-1179), Abbess of Rupertsberg Monastery on the banks of the Rhine, recommended it for dysuria; drinking warm cow's or sheep's milk in which the stone had been steeped was her suggested treatment.[37]

During the thirteenth century, recipes for the 'Sirop Contre la Pere' (Syrup against the Stone) were circulating in England. These utilised a whole plethora of herbal ingredients, crushed together with Lapis Lincis and drunk in a draught of wine. In a second recipe, a powder effective against bladder stones consisted of Lapis Lincis ground together with Armenian Stone (blue copper carbonate), Agate (cryptocrystalline quartz), Lapis lazuli (lazurite, a feldspathoid silicate which was powdered and used as a colouring agent), as well as gold, silver and iron filings. These were mixed with musk, ambergris, oil of nard, 'oil sanguine' and an assortment of plant material.[38]

The number of ailments for which the Lynx Stone was believed to be effective expanded considerably in the writings of the lapidarists and before long was being used in a wide range of medical conditions. The availability of English translations of the works of Christopher Wirtzung meant that it, together with herbal ingredients, continued to be prescribed for bladder stones well into the mid-seventeenth century.[39]

Oswald Croll (1560-1609), follower of Paracelsus and evangelical proponent of the Doctrine of Signatures considered that :[40]

> All things which expel the Stone in the humane Body, are Magically signated from the similitude, and by their resemblances signifie the Disease. The Crystal, Flint, Citrine Stone, Judaick, and Stone of the Lynx: the Urine of the Lynx coagulates into a Stone, therefore its Urine is exceeding profitable to expel Gravel in the Bladder.

In conclusion, three 'stones' were used quite extensively from classical times through to the eighteenth century in the treatment of urinary calculi. Whilst there is some doubt over the identity of some of the specimens used in classical times, it is clear that, by the seventeenth century, jade, belemnites and fossil echinoid spines formed part of the apothecary's armoury in the fight against disease. Used singly to begin with, they were often mixed with other ingredients, particularly herbal simples according to early published accounts by leading medical authorities.

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Endnotes and References

1. Parmar, M.S. Kidney Stones. *Br Med J* 2004; vol:1420-1424.
2. Brothwell, D. Evidence of Endemic Calculi in an Early Community, 349-351. In Brothwell, D., Sandison, A.T. (eds) *Diseases in Antiquity*. Springfield: Charles C. Thomas, 1967.
3. Curtius, A.C. *Inaugural Dissertation on the Kidney and Bladder Stone*. 1662 [Reprint and translation]. Chicago: Lithuanian Medical Association, 1967, 14.
4. Hill, J. *The distinct symptoms of the gravel and stone, explained to the patient; in all their stages and circumstances. With the conduct of life necessary to prevent the encrease of the complaint. And safe and effectual medicines, easily prepared at home, particularly the use of sparry waters for the disorder*. London: J. Davis & M. Cooper, 1759: 1.
5. Carie, W. *The hammer for the stone: So named, for that it sheweth the most excellent remedie that ever was known for the same*. London: Henrie Denham, 1580.
6. Kunz, G.F. *The Curious Lore of Precious Stones*. Philadelphia: J.B. Lippincott Company, 1913: 384; Gonnelli, G.D.M. *Thesaurus philosophicus, seu de Gemmis et Lapidibus Pretiosus etc.* [With the regulations of the library of the convent of the Blessed Mary de Monte Carmelo at Venafro appended.]. Neapoli, 1702: 157-158.
7. Ellis, H. *A History of the Bladder Stone*. Oxford: Blackwell Science Publications, 1969.

https://dx.doi.org/10.24355/dbbs.084-201801291346

8. Moore, W. *The Knife Man. The Extraordinary Life and Times of John Hunter, Father of Modern Surgery*. London: Bantam Press, 2005: 68.
9. Greenfield, J. *A Compleat Treatise of the Stone and Gravel*. London: Ralph Smith, 1710: 271.
10. Oakley, K.P. Folklore and Fossils. *Antiquity* 1965; 39: 9-16, 117-125; Oakley, K.P. Animal Fossils as Charms. In : Porter, J.R., Russell, W.M.S. (eds). *Animals in Folklore*. London: Folklore Society, 1978: 208-240, 276-281; Oakley, K.P. Decorative and Symbolic Uses of Fossils. Selected Groups, mainly Invertebrate. Pitt Pivers Museum, University of Oxford, *Occasional Papers on Technology 13,* 1978; 99 pp.
11. Rudwick, M.J.S. *Bursting the Limits of Time*. Chicago: Chicago University Press, 2005.
12. See Adams, F.D. *The birth and development of the Geological Sciences*. Baltimore: Williams & Wilkins, 1938 for a useful summary.
13. Monardes, N. *Delle cose che vengono portate dall'Indie Occidentali pertinenti all'vso della medicina ... Parte prima*. Venetia: G. Ziletti, 1575: 46.
14. Raleigh, Sir Walter. *The discoverie of the large rich, and bewtifvl empire of Gviana. With a relation of the great and Golden Citie of Manoa (which the Spanyards call El Dorado) And of the Prouinces of Emeria, Arromaia, Amapaia, and other Countries, with their riuers, adioyning*. London: Robert Robinson, 1596: 29.
15. Bartholin, C. De Lapide *Nephritico opusculum, ubi simul de Amuletis omnibus praecipuis*. Hafniae, 1627.
16. Kunz, G.F. *The Magic of Jewels and Charms*. Philadelphia: J.B. Lippincott & Co., 1915: 141. The specimen is a square plate of jade, set in a plain silver mounting with a loop. Christian IV apparently died with the amulet around his neck (inventory number 3-94); Heiberg, S. (ed.) *Christian IV and Europe* – The 19th Council of Europe Exhibition. Denmark: Foundation for Christian IV Year 1988, 1988, No 636.
17. De Laet, J. De gemmis et lapidibus libri II. In de Boodt, A.B. *Gemmarum et lapidum historia*. Lugduni Batavorum : Ex officina Ioannis Maire, 1647: 84.
18. Kunz. See Reference 16: 141.
19. Uzanne, O. *Lettres de V. Voiture publiees avec notes et index*. 2 vols. Paris: Librairie des Bibliophiles, 1880, I: 66.
20. Gunther, R.T. *The Greek Herbal of Dioscorides illustrated by a Byzantine A.D. 512*: Englished by John Goodyer A.D. 1655, Edited and first printed A.D. 1933. London: Hafner, 1968: 655.
21. Sweet, J.M. Sir Hans Sloane: Life and mineral collection. Part III : Mineral Pharmaceutical Collection. *Natural History Magazin*e 1935; 5: 145-164; Duffin, C.J. Lapis Judaicus or the Jew's stone : the folklore of fossil echinoid spines. *Proceedings of the Geologist's Association* 2006; 117: 265-275.
22. Gesner, C. *De Rerum Fossilium, Lapidum et Gemmarum maxime, figures et similitudinibus Liber: non solum Medicis, sed omnibus rerum Naturae ac Philologiae studiosis, utilis et jucundus futurus*. Zürich: publisher unknown, 1565.
23. Duffin. Reference 21: 267.
24. Kuhn, C.G. (ed.) *Claudii Galeni Opera Omnia*. 20 vols. Hildesheim: Georg Olms, [1833] 1964-5 reprint, vol. 12: 199.
25. Riddle, J.M. Marbode of Rennes' (1035-1123) De Lapidibus considered as a medical treatise with Text, commentary and C. W. King's translation together with text and translation of Marbode's minor works on stones. *Sudhoffs Archiv*, 20: 87; Pfeiffer, F. Konrad von Megenburg. *Das Buch der Natur. Die erste Naturgeschichte in deutscher Sprache*. Hildesheim, Zürich & New York:Georg Olms, 1994; De Beauvais, V. *Speculum naturale*. Strassburg: Adolph Rusch, circa 1498. [author also known as Vincentius Bellovacensis]; Studer, P. Evans, J. Anglo-Norman Lapidaries. Paris: Edouard Champion, 1924: 199.
26. Wirtzung, C. *The General Practise of Physicke*. Conteyning all inward and outward parts of the body, with all the accidents and infirmities that are incident unto them, even from the crowne of the head to the sole of the foote. Also by what meanes (with the help of God) they may be remedied: very meete and profitable, not only for all Physitions, Chirurgians, Apothecaries, and Midwives, but for all other estates whatsoever; the like whereof as yet in English hath not been published. Translated by Iacob Mosan. London: Thomas Adams, 1617: 456; Wecker, J. *Eighteen Books of the Secrets of Art and Nature, being The Summe and Substance of Naturall Philosophy, Methodically Digested*. First designed by John Wecker Dr in Physick, and now much Augmented and Inlarged by Dr R. Read. [Translated by William Rowland]; a like work never before in the English tongue. London: Simon Miller, 1660: 63.
27. Leonardus, C. *Speculum lapidum*. Venice: J.B. Sessa, 1502; Leonardus, C. *The mirror of stones*; in which the nature, generation, properties, virtues and various species of more than 200 different jewels, are distinctly described. Also certain and infallible rules to know the good from the bad, how to prove their Genuineness, and to distinguish the Real from the Counterfeit. Extracted from the works of Aristotle, Pliny, Isiodorus, Dionysius Alexandrinus, Albertus Magnus etc.by Camillus Leonardus; Now first translated into English. London: J. Freeman, 1750: 88.
28. Hill. Reference 4: 36.
29. Duffin. Reference 21: 270.
30. www.botanical-herbs.com/products.php?pd=102&cd=106
31. Hill, J. *Theophrastus's History of Stones*. With an English version, and critical and philosophical notes, including the modern history of the gems, &c, described by that author, and of many other of the native fossils. To Which are Added, Two Letters: I: On the Colours of the Sapphire and Turquoise. II. Upon the Effects of Different Menstruums on Copper. London: C. Davis, 1756.
32. Gesner. Reference 22, 89v.
33. De Boodt, A.B. *Le parfaict ioaillier, ou histoire des pierreries*: où sont amplement descrites leur naissance, iuste prix, moyen de les cognoistre, & se garder des contrefaites, Facultez medicinales, & proprietez curieuses. Composé par Anselme Boece de Boot, Medecin de l'Empereur Rodolphe II. Et de nouveau enrichi de belles Annotations, Indices & Figures. Par André Toll, Doct. Med. de Leide [traduit du latin par J. Bachou]. Lyon: Jean-Antoine Huguetan, 1644: 614-615.
34. Plot, R. *The natural history of Oxford-shire*, being an essay toward the natural history of England. 2nd edn. Oxford: Printed by Leon. Lichfield, for Charles Brome at the Gun near the West-End of St Paul's Church, and John Nicholson at the King's-Arms in Little-Britain, 1705: 96.
35. Valentini, M.B. *Museum Museorum*, oder Natur und Mineralien Kammer, auch ostindische Sendschriebern und Raporten. Frankfurt am Main: publisher unknown, 1704.
36. Ball, S.H. *A Roman Book on Precious Stones*. Los Angeles: GIA, 1950: 136.
37. Riethe, P. *Das Buch von den Steinen*. Hildegard von Bingen; nach den Quellen übersetzt und erläutert von Peter Riethe. Salzburg: Otto Müller, 1997: 110.
38. Hunt, T. *Popular Medicine in Thirteenth-century England*. Introduction and Texts. Cambridge: D.S. Brewer, 1990: 328.
39. Wirtzung. Reference 26: 457.
40. Croll, O. *A Treatise of Oswaldus Crollius of Signatures of Internal Things*; or, A True and Lively Anatomy of the Greater and Lesser World. London: printed for John Starkey at the Mitre in Fleet-Street, and Thomas Passenger at the Three Bibles upon London Bridge, 1669: 8.

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Proprietary Articles Trade Association

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This year 2006 is 110 years since the formation of the Proprietary Articles Trade Association by Sir William Samuel Glyn Jones and the beginning of a period of stable retail prices for medicines sold in pharmacies.

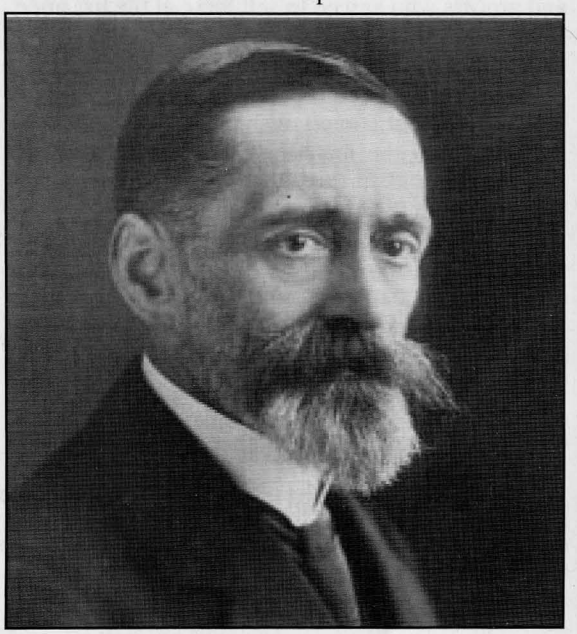
Glyn Jones qualified in 1891. He started his career by dispensing for a doctor in the East End of London. At the time it was quite common for doctors to supply their own medicines to patients that visited them for a consultation. They either dispensed the medicine themselves, often making this up from a concentrated mixture, or more likely they had a dispenser, who may have been a fully qualified pharmacist, to dispense for them. After gaining experience, he opened his own business at 159 East India Dock Road in London.

At this time economic conditions were difficult. In the poorer districts the pharmacist did little dispensing. This was caused both by the supply of medicines by the doctor, but more often because the patient could not afford to visit the doctor and pay for a consultation and their medicines. Consequently the pharmacy depended for their sales and their profitability on the sale of proprietary medicines and items supplied over the counter. In the case of Glyn Jones' pharmacy this accounted for over half of his turnover, But the turnover, and his profit, was being constantly eroded by the practice of the retail chains to discount the retail prices of medicines, in order to attract customers to their shops.

The growth of proprietary medicines started in the middle of the 18th century. Their formula was kept confidential by the manufacturers and they were often referred to as 'secret remedies'. The apothecaries felt that it was not ethical to supply these items and this forced the manufacturers to find other outlets. For some years they were supplied to the public by booksellers. With the growth in the number of chemist and druggist shops there was a growing interest in retail trading. The proprietors saw that these items were profitable and the public were ready to accept that the chemist and druggists shops were more suitable outlets for these medicines. Sales were transferred from the booksellers to the chemist and druggist.

During this period proprietary medicines were advertised widely and sales increased substantially. This was helped by the growth of the urban population and an increase in the numbers of the middle classes, who could afford to pay for medicines. Unfortunately this growth in turnover was not matched by an equivalent increase in profit, because of the growth in price cutting.

Towards the end of the 19th century there was an expansion in the number of co-operative stores and in the new multiple shops. One of the main attractions for customers to use the co-operative societies was the rebate which was given in the form of a dividend to all their members. This related to the level of their purchases. The new multiple drug stores, with a number of retail outlets, were able to buy in bulk from the manufacturers, most of whom had discounted terms for larger orders. They were thus able to sell at a discounted price but maintain their level of profit. Their selling prices were often equivalent to the buying price of the small chemist and druggist and this situation was aggravated by the grocers who were also increasing their stocks of medicines and who followed the downward trend in retail prices.



Sir William Glyn Jones

Courtesy of the Museum of the Royal Pharmaceutical Society

The small chemists were forced to retaliate. Initially this was by trying to match the prices of the multiple drug stores. Selected items or 'loss leaders' were sold at or below cost to attract their customers. This could only be continued for a short time with a limited number of items. The other alternative was to substitute the advertised proprietary article with a more profitable item. This practice became commonplace. A customer asking for an advertised brand would be offered one of the chemist's own preparations or an alternative on which the chemist could make a profit. If they refused the substitute they would often be given a sample to try.

By 1890 it was estimated that as much as 20% of all proprietary medicines that were asked for by name were substituted. This practice harmed the manufacturer as well as affecting retail sales and there was growing opposition to price cutting from all sides of industry. Some attempts were made to introduce local price agreements but all of these attempts failed.

Glyn Jones appreciated that the initiative would have to come from the retailers. However although the

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Chemists were 'the chief sufferers and from them must come the initiative', the only lasting solution would be if the retailers, manufacturers and wholesalers could be brought together to act in consort. He published his ideas in the *Anti-Cutting Record*, and as a result of the reaction of his readers he organised the first general meeting of the Proprietary Articles Trade Association at Andertons Hotel, Fleet Street, London on Wednesday 29 January, 1896.

Proprietary Articles Trade Association

It was proposed that that members of the Association would only supply proprietary medicines to chemists and grocers who agreed to sell these at the list price. If retailers were found to be guilty of cutting prices, they were to be warned that action would be taken if they did not adjust their prices. If after this warning they they did not comply then their names would be notified to all the manufacturing members of the Association and further supplies of their products would be with held.

The manufacturers who joined the Association were taking a risk as they wanted to have the widest possible distribution of their products. Fortunately a sufficient number could see that there would be benefits arising from a more controlled market and joined the Association. The first list published in the *Anti-Cutting Record* (below) contained 15 items. By the time that the first annual report was published in 1897 this had risen to 54 articles. There were 40 manufacturers and 17 wholesalers in membership. Meetings were held around the country to introduce the concept and received universal support; the only town to reject the idea was Glasgow. But here the decision was overturned at a further meeting some weeks later.

All was not plain sailing and there was some fierce opposition, particularly from the multiple drug stores. Blackhams Drug Store of Holloway Road, London, published an advertisement part of which read

> This sorry league has for its avowed object raising the prices of all proprietary articles. After 60 years brilliant success of Free Trade the Association attempts the insane process of trammelling enterprise and putting the brisk business like Store Chemist on the same level as the sleepy, lazy, fossilised, high priced, stale goods Chemist. The funeral rites of this Society will not be long postponed.

The co-operative chemists were also a problem as the dividend they gave their customer was in effect a cut in the price. Initially the co-operative manufacturers responded by telling their members that the proprietary manufacturers were boycotting their shops. They would manufacture a range of substitute products for them to supply instead. This must have become more difficult as the range rapidly increased and the position was resolved by the co-ops agreeing not to pay a dividend to their members on PATA-listed items

Despite the opposition the scheme prospered. By

A List of the first fifteen articles to be included in the PATA scheme

	Minimum Wholesale Price	*Minimum Retail Price*
Barclay's Dr. Bateman's Drops	10/6 25/-	13½d 2/9
Condal Watter	13/6	1/6
Davis' Colorific	27/- 43/-	2/9 4/6
Davis' Colorific Shields	14/6	1/6
Dicey's Dr. Bateman's Drops	10/6 25/-	13½d 2/9
Dicey's Daffy's Elixir	18/- 25/-	2/- 2/9
Dredge's Heal All	10/6 25/-	13½d 2/9
Frog in Your Throat?	5/6 1 doz	7½d
	60/- gross	n/a
Hall's Coca Wine	27/- 15/6	3/- 1/9
Invalid Bovril	11/- 19/-	1/3 2/6
Mrs Johnson's American Soothing Syrup	10/6 25/-	13½d 2/9
Lambert's Balsam	10/- 27/-	1/- 2/9
Liebig's Ext. of Meat and Malt Wine (Keystone Brand)	30/- 17/-	3/3 2/-
Peptarnis (Liebig Co.'s Peptone of Beef)	9/6, 17/- 33/-	1/-, 1/9, 3/3
Dr. Scott's Bilious and Liver Pills	10/- 24/-	1/- 2/6

On and after July 15th 1896, the Proprietors of the above Articles will not permit them to be supplied to Firms who retail any one of them below the above minimum prices. The name of any firm selling any of the above Articles below the said prices will be sent to the manufacturers and to every Wholesale buyer, and supplies of the whole list will be withheld.

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1898 over 150 products had been registered and the principle of the operation was well understood and accepted. Some price cutting continued but this was often by new retailers who did not understand the system. They were easily dealt with. Other retailers were well aware of the rules but thought it was worth the risk to breach them. PATA had to maintain a secretariat and retain solicitors to deal with the more intransigent shops.

Over the years there were a number of enquiries into the operation of the Association. The first was in 1919 when the Central Profiteering Committee reported that the system worked to the advantage of the public by preventing inflated prices in times of scarcity. In 1929 the Labour Government formed a Restraint of Trade Committee. They found that there was a right to combine in defence of or support of a trade if the real purpose was to forward or defend the trade and not to injure others.

Legislation continued to be introduced. The Restrictive Trade Practices Act 1956 required all restrictive trade agreements to be registered. This effectively abolished all pricing agreements between manufacturers. The Act continued to allow individual manufacturers to control the resale prices pf their own products under Section 25 of the Act. PATA continued to act as the manufacturer's representative and policed and enforced the continued maintenance of resale prices.

Resale Price Maintenance

On the 17 March 1960 Mr R. Maudling, the then President of the Board of Trade, announced in the House of Commons that the Government was going to institute an enquiry into the extent and the effect of Resale Price Maintenance. The report was published in 1963, but any debate on its proposals was pre-empted by Mr John Stonehouse bringing a private members Bill to the House on the 14 December 1963 proposing the repeal of Section 25. The Secretary of State for Trade and Industry, Mr Edward Heath confirmed that the Government would introduce legislation to end resale price maintenance. The Resale Price Act came into force in 1964.

The Act outlined the procedure to be followed to gain exemption and the case for the retention of resale price maintenance on medicines was presented by the Association of the British Pharmaceutical Industry (ABPI), the Proprietary Articles Trade Association (PATA) and the Proprietary Association of Great Britain (PAGB). On the 5 June 1970 the court ruled that Resale Price Maintenance could continue on both proprietary and ethical medicines. This allowed PATA to continue to act on behalf of manufacturers to retain prices at the retail level.

The weakness in the judgement was that toiletries and non-proprietary counter medicines were not included. At the time the judgement was made the market was fairly stable. However as the decade progressed, Government pressure on the Health Service and the chemist's contract in particular, led to the reduction in the amounts paid for the dispensing of medicines and the sums reimbursed for medicines. Competition increased, particularly between wholesale suppliers. Some 70% of their turnover was in ethical pharmaceuticals and they suffered a reduction in turnover and profit. This was aggravated by the slow growth of parallel imports at reduced prices supplied by short-line wholesalers, who because they did not stock the complete wholesale inventory could operate at a lower profit margin.

In order to maintain their profit and to increase market share some wholesalers started to offer discounts on toiletries and counter medicines. These discounts were theoretically only available on non price-controlled products but as the systems were tied to total purchases by their chemist customers, these offers were giving a discount on price controlled items. When some ethical manufacturers threatened to withhold supplies from wholesalers, they responded by taking their products out of the scheme and consequently no action could be taken. By 1979 resale price maintenance had effectively collapsed at the wholesale level and under these circumstances it was impossible for PATA to continue their work with retailers.

At the outset Glyn Jones had said that a stable, price-maintained market was only possible if all the members of that market were prepared to work together to the same end. Resale Price Maintenance collapsed not through the price cutting of retailers but because the wholesale suppliers, fighting for a diminishing market, used this as a weapon. In the end some of the wholesalers were forced out of business, the remainder were able to increase their efficiency because the retailer in order to obtain his discounts was prepared to accept lower or different levels of service and to give substantially more turnover to fewer suppliers.

The real winner was the Government who through the price regulation scheme was able to take up the increase in retail profit by negotiating reductions in the price for medicines to take into account the extra discount the retailer was receiving. This led to retailers having to structure their buying so as to take the maximum discount available, in order to avoid being out of pocket.

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Endnotes and References

1. Form of agreement between suppliers and PATA. *Chemist & Druggist* 1896; 14 (18 July): 68.
2. List of protected articles. *Anti-Cutting Record* 1896 (July).
3. Blackham Drug Stores objection to the formation of PATA. *Anti-cutting Record* 1896 (November).
4. *The Story of a Crusade*. London: Proprietary Articles Trade Association, 50th Anniversary.

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A Brief History of the British Pharmacy in Istanbul

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Introduction

This paper examines the British Pharmacy in Istanbul, Turkey, which deserves special attention in the history of pharmacy in the Ottoman Empire. It was the first large-scale drug manufacturer of the 19th century in Turkey. The paper focuses on its history from 1833 to 1965 when the pharmacy was closed. It also mentions the pharmacy's own pharmaceutical preparations and discusses possible reasons for the use of 'British' in its name, which displays the British impact on the pharmaceutical progress of other countries. In the development of this paper, in addition to the resources mentioned at the end of this article, related historical materials which belonged to the pharmacy, such as its envelopes, invoices, postcards, advertisements, etc., were carefully evaluated.

British and London Pharmacies in the Ottoman Empire

Pharmacy education was first offered in the Ottoman Empire in 1839, during the reign of Sultan Mahmud II, with the opening of a pharmacy class at the Military School of Medicine (*Mekteb-i Tibbiye-i Sahane - Ecole Impériale de Médicine*) in Istanbul.[1] It initially aimed to supply pharmacists to the Ottoman army and to state hospitals. Since there were no adequate teaching personnel in Istanbul at that time, foreign teachers were brought in to try to compensate for this shortage. Monsieur Calleja, a French chemist, was invited from Paris to organise a 3-year pharmacy curriculum for the school.[2] Due to a huge lack of pharmaceutical materials such as books, journals and so on in Turkish, the main language, education continued to be given in French until the 1870s.[3]

Public opinion in those days was that the pharmacy profession was only suitable for either non-Muslim or minority background pharmacists. This view was prevalent throughout the country until 1895 when the first Muslim pharmacy owner, pharmacist Hamdi Bey (1860?-1909) appeared.[4] For this reason, 19th century Ottoman pharmacies were mostly managed by non-Muslim or minority background people. Some of them were even foreigners from different nationalities, e.g. French, Italian, Hungarian, British, German and so forth.[5] Most of these pharmacies were located in Istanbul, especially along the Grande rue de Péra (Beyoglu) which today is called Istiklal Street.[6] The British Pharmacy, Della Sudda Pharmacy, Pharmacie Hongroise, La Grande Pharmacie de Paris were among these pharmacies.[7]

In fact, the names 'British Pharmacy' and 'London Pharmacy', both of which indicate the British impact on the Ottoman pharmacy of that time, were used in other parts of the country. It is assumed that some of these pharmacists either received their pharmacy education in England or had British origins. Here is a short list of the British-related pharmacies in the Ottoman Empire:[8]

British Pharmacy, founded by N. Canzuch in 1833 in Istanbul;

London Pharmacy, founded by A. Moore in the 1880s in Izmir;

London Pharmacy, founded by Kharitun Hintlian in the 1900s in Izmir;

Central British Pharmacy, founded by D. Kondomitros in 1915 in Canakkale;

British Pharmacy, founded by Moses M. Albert et Co. in the 1910s in Beirut.[9]

British Pharmacy in Istanbul (1833-1965)

According to the oldest records, the British Pharmacy was founded in Istanbul in 1833 by a pharmacist with Italian roots, Noël Canzuch.[10,11,12] It was located in Beyoglu, at No. 178 in the Grand Rue de Péra, which was a district famous for its embassies and commercial shops. The pharmacy was the first large-scale drug manufacturer of that day in Istanbul, hence the most famous one. The reason why the name 'British Pharmacy' was chosen is not obvious today; it may be because of this pharmacy's reputation for serving 11 embassies including the British Embassy.

Noël Canzuch laid the foundation of this very famous and long-running pharmacy. He had 3 sons, François, Joseph and Natale, who would all become pharmacists in the future. Although the exact date is unknown, after his death the pharmacy was the responsibility of the older brother François for some years. During his term, he developed the pharmacy and increased its existing reputation. Apart from his pharmacy work, François also wrote some articles for the *Journal de la Société de Pharmacie de Constantinople*.[13,14] After François' death in 1897, the pharmacy work was carried on by his extroverted younger brother, Joseph Canzuch, who was an outstanding pharmacist with entrepreneurial skills.[15]

Joseph was a member of the Société des Pharmaciens de Paris and Société d'Hygiène de France. He also attended the International Medical Congress in London in 1881 and was awarded a 'diplome de mérite' for his special preparation '*Elixir Toni – Digestif de J. Canzuch*'.[16,17,18] It is interesting that some publications (Sandalci 1997, 46) mention his graduation from the London School of Pharmacy, although we have not found any information confirming this. In fact, our research into the Society's exam participants in the 1880s, using the archives of the Library of the RPSGB, has not provided the slightest clue about it. Hence it might be that he studied pharmacy in London, came back to Istanbul and then became the pharmacist of the British Pharmacy.

During these years, as mentioned above, the pharmacy was very famous for serving as the

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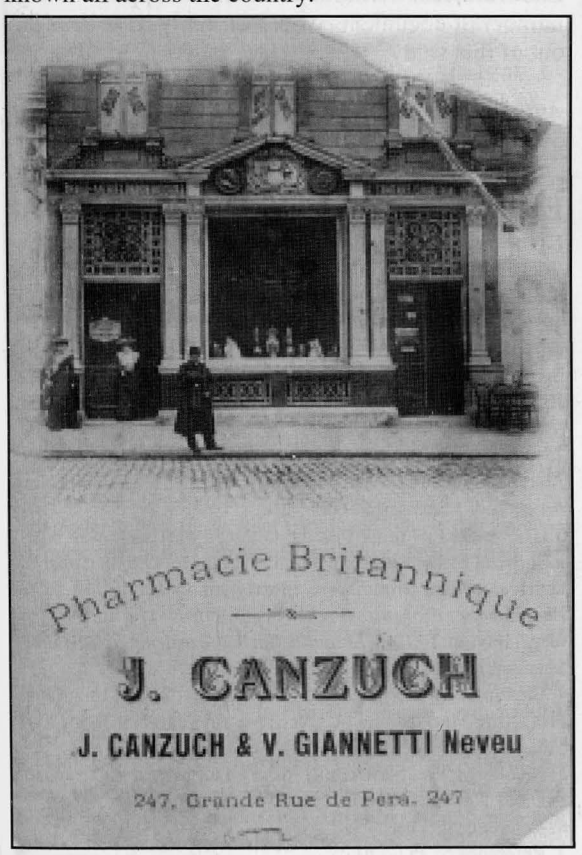
Pharmacy's stationery, ca. 1890s (Belgelerle Turk Eczaciligi, 2000)

pharmacy for 11 embassies and producing numerous pharmaceutical preparations like Liqueur de Cola Cacao, Elixir de Pepto Kola, Crème de Glyserine Rose, Balsamine Orientale, Granules Dynamophores, Lotion du Dr. Wilson, Sirop du Dr. Leon and so forth.[19] It is possible to claim that Joseph, who received two of the Ottoman Empire's Imperial Honours (Mecid-i Nisani & Nisan-i Osmani), was solely responsible for the hard work needed to make this pharmacy well-known all across the country.[20]



One of the oldest photos of the British Pharmacy in Istanbul, ca. 1890s
(Courtesy of Prof. Afife Mat)

Some advertisements from the British Pharmacy, especially those dated 1888-1890, reveal that there was a huge rivalry between two pharmacies using the same name: British. For this reason, the advertisements of the British Pharmacy, directed by Joseph, strongly emphasised that they did not have any other branch in Istanbul.[21] Recent research indicates that a conflict occurred between the two brothers, Joseph and Natale, before the 1890s, after which Natale decided to set up his own pharmacy with a similar name, English Pharmacy (Pharmacie Anglaise) first at No. 47 in Nisantasi Street and later at No. 4, Hamidiye Street in the Bahcekapu district.[22,23] Upon Natale's death in 1904, his English Pharmacy was bought by Apik Karis Utucuyan.[24]

After the other brother Joseph's death in Athens in 1911, his nephew Vincent Gianetti became fully responsible for the pharmacy, perhaps because Joseph did not have any children.[25] Vincent endeavoured to set up a new laboratory as well as to develop the existing pharmacy. He took part in the Pharmaceutical Society of Istanbul and was elected as a member of the Pharmacy Legislation Committee there.[26] His brother, Sylvio Gianetti, a chemist, joined him in 1913.[27]

Mr. Gianetti, ca. 1910s (Turk Tibbi Mustahzarati, 1929)

During World War I, the name of the pharmacy was changed to 'Canzuch Pharmacy' due to citizens' negative attitudes towards Britain, which was one of the countries fighting against the Germans and their allies, the Ottoman Empire.[28] However, the original name reappeared shortly after, in the 1920s. Upon Vincent's death on April 20, 1929, the pharmacy was

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run by other pharmacists until September, 1932 when pharmacist Muhittin Husnu Kansuk (1901-1969) took over responsibility for the pharmacy.[29,30,31,32]

Kansuk followed a similar path to his predecessors: he used the name British together with his surname, Kansuk, which is slightly different from Canzuch;[33] he gave importance to drug manufacturing; and he added some new formulas to the pharmacy's own preparations. It is known that a staff of 16 was working behind the counter in addition to others working in the laboratory.[34] According to official records, the pharmacy produced more than 30 different medicines including cough syrups, antiseptic lozenges, purgative suppositories, eye preparations, tablets, even cosmetic preparations like antiperspirants.[35] Moreover, Mr. Kansuk established a drug warehouse, named Kansuk Ecza Deposu, at No. 73 Havyar Han, which then moved to a new address at No. 4 Galata Mumhane Street Fransiz Gecidi in Istanbul.[36]

A photo of the laboratory in the Pharmacy, ca. 1950s
(Courtesy of Prof. Afife Mat)

The pharmacy was in service at its last address, at No. 241 in front of the Cicek Pasaji, until 1965 when Mr. Kansuk had a sudden stroke. At that time the name Kansuk appeared as a drug manufacturing company under the name Kansuk Laboratuvar (Laboratory). The laboratory, which was founded by Dr Ismet Sezen (1929) in February 1960, has continued until today.[37,38] It is of note that lozenges which contain eucalyptus-menthol, the British Pharmacy's own original production from its early years, are still being manufactured with the same formula by the aforementioned company in Istanbul.

It is interesting that during the course of its history, each owner of the pharmacy has strongly emphasised 'British' or 'Britannique' in its name on its envelopes, invoices, stamps and other stationery. By and large, the name was accompanied by a lion, a horse and a crown together with the motto of the British Monarch: Dieu et mon droit, which is very similar to that on the Royal Coat of Arms of the United Kingdom.[39]

Conclusion

The British Pharmacy (1833-1965) in Istanbul was one of the pioneer pharmacies of the Ottoman Empire because of the large scale of its drug manufacturing business, especially during the 19th century. For almost a century, it served in Grande rue de Péra (today Istiklal Street) in the Beyoglu District of Istanbul, where it was continued by different generations of the same family: Noël Canzuch, Joseph Canzuch, François Canzuch, Vincent Gianetti and Sylvio Gianetti. Among them, pharmacist Joseph Canzuch was remarkable because of receiving a 'diplome de mérite' at the International Medical Congress (London) in 1881. In 1932, the pharmacy was purchased by pharmacist Muhittin Husnu Kansuk who continued to use the same name with only a slight difference. He ran the British Kansuk Pharmacy until 1965. In 1960, M. H. Kansuk and Dr. Ismet Sozen set up a drug manufacturing company under the name Kansuk Laboratuari (Laboratory) which is still part of the Turkish pharmaceutical market today.

Acknowledgements

I would like to thank Ms. Briony Hudson who kindly assisted me in my search for related documents in the Library of the Royal Pharmaceutical Society of Great Britain (RPSGB). I would also like to express my gratitude to Prof. Afife Mat, a renowned authority on the history of pharmacy, H. Nezih Kansuk, the nephew of the deceased pharmacist Muhittin Husnu Kansuk, and Dr. Ismet Sozen, the owner of the Kansuk Laboratories. Without their kind support a large number of documents would certainly have been left out of this study.

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Endnotes and References

1. This school was followed by the Civil School of Medicine (Mekteb-i Tibbiye-i Mulkiye-i Sahane) in 1867, the Haydarpasha Military Health School (Haydarpasa Askeri Saglik Mektebi) in 1876, the School of Medicine in Damascus (Sam Tibbiye Mektebi) in 1903, and finally the School of Pharmacy (Eczaci Mektebi Alisi) in 1908. (Baytop T. *Turk Eczacilik Tarihi*, Istanbul: Yayina Hazirlayan Prof. Afife Mat, Istanbul Universitesi Yayinlari No: 3358, 2001).

2. Asil E., Ozcelikay G. *Osmanli Imparatorlugu'nda Eczacilik,* Ankara: Osmanli Devleti'nde Saglik Hizmetleri Sempozyumu, Ajans Turk Matbaacilik, 2000: 210.

3. This makes us think that the Ottoman pharmacy was highly influenced by the European pharmacy. Indeed, Ottoman pharmaceutical preparations were mostly made according to the *Pharmacopée Française* (French Pharmacopœia) for almost a century. (Baytop T, *Turk Eczacilik Tarihi Arastirmalari*, Istanbul: Sinangin Matbaasi, 2000: VIII).

4. Baytop T. *Turk Eczacilik Tarihi*, Istanbul: (Yayina Hazirlayan: Prof. Afife Mat), Istanbul Universitesi Yayinlari No: 3358, 2001: 115.

5. Nicolas M. La Pharmacie et l'État – La Pharmacie Ottomane a Istanbul, *Rev Hist Pharm* 2002; 334: 257-270.

6. Reference 4: 115.

7. Reference 5: 257-270.

8. Sandalci M. *Belgelerle Turk Eczaciligi I (2) (1840-1948)*, Istanbul: Dr. N. F. Eczacibasi Vakfi, Mas Matbaacilik, 2002.

9. Ibid.

https://dx.doi.org/10.24355/dbbs.084-201801291346

10. Baytop T. *Turk Eczacilik Tarihi Arastirmalari,* Istanbul: Sinangin Matbaasi, 2000: 131; Sandalci M. *Belgelerle Turk Eczaciligi I (1840-1948)*, Istanbul: Dr. N. F. Eczacibasi Vakfi, Mas Matbaacilik, 1997: 46.
11. Altun M. *Tahlilhane'den Ilac Sanayine Bir Asirlik Birliktelik*, Istanbul: Turkiye Ekonomik ve Toplumsal Tarih Vakfi, Step Ajans, 2003: 255.
12. The foundation date of the pharmacy was 1859 according to Sehsuvaroglu B. *Eczacilik Tarihi Dersleri*, Istanbul: Istanbul Universitesi Yayinlari No: 1582, Husnu Tabiat Matbaasi, 1970: 253. However recent research agrees on a date of 1833.
13. Canzuch F. Quelques Observations sur l'Art de Formuler. *Journal de la Société de Pharmacie de Constantinople*, 1879; 1: 82.
14. Canzuch F. Exposé sur la Défectuosité de la Préparation du Vin de Quinquina du Codex Française et Nouveau Mode de le Prépare, *Journal de la Société de Pharmacie de Constantinople* 1879; 1: 118.
15. Reference 4: 115.
16. Indeed, the 7th International Medical Congress in London was to prove to be the largest and most successful ever. Under the patronage of Queen Victoria, the Congress was opened in St. James' Hall, Piccadilly in the presence of HRH The Prince of Wales (the future King Edward VII). There were 3,181 participants including Pasteur and Koch. As part of the social programme, Baroness Burdett-Coutts held a garden party at her Highgate home. This occasion was also recorded in a large group portrait, which is now in the Wellcome Institute for the History of Medicine, London. (The Wellcome Trust Library Records; Sakula A. Baroness Burdett-Coutts' Garden Party: The International Medical Congress, London, 1881, *Journal of Medical History* 1982; 26: 183-184.)
17. Unfortunately no documents about the Congress mention either Joseph's attendance or his certificate of merit.
18. Sandalci M. *Belgelerle Turk Eczaciligi III (1840-1948)*, Istanbul: Dr. N. F. Eczacibasi Vakfi, Mas Matbaacilik, 2000: 61.
19. The original names of drugs belonging to Joseph's period are as follows: Balsamin Sarki, Vitalin Surubu, Korisit, Sirop Pektoral, Katran Suyu, Anti-malaria, Linimentol, Alexin Jaun, Pastil Leon, Elefterin, Borosalina. Tahaffuz Merhemi, Suppogliserin, Juvantin Sarki (Reference 11: 267).
20. Reference 11: 267.
21. Sandalci M. *Belgelerle Turk Eczaciligi II (1840-1948)*, Istanbul: Dr. N. F. Eczacibasi Vakfi, Mas Matbaacilik, 1998: 79.
22. Sandalci M. *Belgelerle Turk Eczaciligi I (1840-1948)*, Istanbul: Dr. N. F. Eczacibasi Vakfi, Mas Matbaacilik, 1997: 46.
23. A prescription stamped by N. Canzuch, dated to 1897.
24. Reference 21: 79.
25. Reference 4: 343.
26. The meeting occurred on August 20, 1908 with the participation of almost 250 pharmacists in Istanbul. Hamdi Bey, P. Apéry, Della Suda, Reboul Hasan Rauf Efendi and Tchitcekian were the other members of the Legislation Committee (Reference 10: 24).
27. Reference 21: 83.
28. Reference 4: 115.
29. Reference 21: 83.
30. Reference 4: 115.
31. Kumbaracilar I. *Eczacilik Tarihi ve Istanbul Eczahaneleri*, Istanbul: Celik Gulersoy Vakfi, Istanbul Kutuphanesi Yayinlari Tarih Dizisi, 1988: 85.
32. Muhittin Hunsu Kansuk (1901-1969) graduated from the School of Pharmacy (*Eczaci Mektebi*) in Istanbul in 1922. He was the owner of the Sifa Pharmacy in Koyunpazari, Ankara before his move to Istanbul (Reference 8: 76).
33. Turkish citizens began to use surnames for the first time thanks to the Surname Law N: 2525 (accepted on June 21, 1934). (Anonymous, *Turkiye'nin 75 Yili*, Istanbul: Hurguc Gazetecilik A.S., Hurriyet Ofset Matbaacilik, 1998: 58) Mr Muhittin Husnu decided to take the surname Kansuk, which had a pronunciation close to and had only a one letter difference from the original name of the pharmacy, in order to benefit from Canzuch's renowned name. (Interview with Mr H. Nezih Kansuk, 2nd July 2006)
34. Reference 18: 69.
35. Sari N et al. *1910–1928 Yillari Arasinda Yayinlanan Eski Harfli Reklamlarda Turk Mustehzaratciligi*, Ankara: II. Turk Tip Tarihi Kongresi Bildirileri, Turk Tarih Kurumu Basimevi, 1999: 118).
36. Reference 18: 61.
37. Reference 4: 115.
38. Dr Ismet Sozen, born in 1929 in Usak, Turkey, graduated from the Istanbul University School of Medicine in 1953 and set up the Kansuk Laboratory together with Mr M. Hunsu Kansuk in 1960. In 1969, he became the executive member and then then president of the Turkish Drug Manufacturing Association. Today, he continues his work as the owner of the Kansuk Laboratories in Istanbul. (Dr Ismet Sozen's letter, dated July 28, 2006, Istanbul).
39. Reference 21: 77.

The Queen of Hungary's Water: a further note on early British sources

W A Jackson

I read 'Queen of Hungary's Water' by Patrizia Catellani and Renzo Console [*Pharmaceutical Historian* 2006; 36 (3): 47-52] with great interest. As usual with their work, the amount of research which they had undertaken was most impressive. However, I believe that I have found some English references to this product that predate those quoted by the *Oxford English Dictionary*, 1989 or the CD Rom version of 1999:

1. Moses Charras. *The Royal Pharmacopoea* (sic), *Galenical and Chymical*. London: John Starkey and Moses Pitt, 1678, Part 3, Book 1, Chapter 13, p. 20.

Under 'Distillation of Flowers of Rosemary' Charras gives detailed instructions for its preparation, and warns that some ignorant and wicked people in the provinces 'leave a great part of the Herby part' with the flowers. This gives a stronger but more tart and unpleasing product. Some also use ordinary Aqua Vitae instead of rectified Spirit of Wine in its preparation. He states that it was given the name of the 'Queen of Hungary's Water' because of its wonderful effect on her when she was 72 years old.

2. W Salmon. *Pharmacopoeia Londinensis, Or The New London Dispensatory*. London: Dawks, 1678, Lib. 1, Cap. 5, 5, p. 119a. Anthos, flores Rosmarini.

He states 'Of these flowers is made the Queen of Hungaria's water, so much esteem'd and cry'd up all the world over'.

3. W Salmon. *Doron Medicum: Or, A Supplement To The New London Dispensatory,* 2nd edition. London, Dawks, Bassset, Chiswell, Wotton and Conyers, 1688, Lib. 2, Cap. 1, 9, p. 402a. Aqua Reginae Hungaricae,The Queen of Hungaries (sic) Water.

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Salmon devotes half a page to the method of its preparation, and another half page extolling its virtues in treating more than thirty conditions, including lethargy, diseases of the nerves, loss of memory, dullness, sleepiness, drousiness (sic),deafness, and coagulation of the blood. As I suffer from all these to a marked degree, I think that I should consider taking it regularly, particularly as he claims that it also 'restores the Faculties and Functions of the Body even in old Age'.

4. JH. *The Family Dictionary; or Houshold* (sic) *Companion*. London: H Rhodes, 1695, unpaginated, see 'Queen of Hungary's Water'.

Here the formula given contains: 'Maiden-hair, Scabeous, Tops of Lavender, Borrage flowers, Rosemary flowers, Tops of Fumitory, and Dew swept off the Grass, or Corn, or gathered in a clean Napkin, and so wrung out'.

He adds:

> This Water was found out by Elizabeth Queen of Hungary, who us'd it to preserve her Beauty; which she did to such a wonder, that in her extream (sic) Age she appeared young and beautiful, insomuch that the King of Poland desired her in Marriage'.

In *Chronicles of Pharmacy*, Vol. 1. London, Macmillan and Co., pp 296-299, AC Wootton mentions that Queen Elisabeth of Hungary left two breviaries in her will, and it is possible that it was one of these that was inherited by Francis Podcather from his ancestors.

Renzo Console has added these further references to the use of Hungary Water:

1. Smellie, William. *A Treatise on the Theory and Practice of Midwifery*, 4th Edn, Vol. 1, Book 4, chapter 2. London, 1762.

He describes the cleansing and removal of scurf from new-borne babies by using warm water mixed with a small quantity of Hungary Water, wine or ale.

2. Lindley, John. *An Introduction to the Natural System of Botany*. London: Longman, Rees, Orme, Brown and Green, 1830, p. 240.

3. Austen, Jane. *Evelyn* (1792), per *Catharine and other Writings*. Oxford: OUP, 1998.

Austen was 17 years old when she wrote this story, with a passing mention of Hungary Water.

Review

Apotheker Kalender 2007 (Calendar for Pharmacists 2007) Prof. Dr Werner Dressendörfer. ISBN 3-7692-4177-0. Obtainable from Deutscher Apotheker Verlag, Postfach 10 10 61, 70009 Stuttgart, Germany or service@deutscher-apotheker-verlag.de; price 68 Euros.

The 2007 Calendar for Pharmacists continues the tradition of previous years with a colourful series of pharmacy images edited by Prof. Werner Dressendörfer of Bamberg and translated into English by Diane Blaurock. This year's illustrations come from several German museums and libraries.

The Dispensary of the Castle Pharmacy in Dresden is featured on the cover and in March. The pharmacy was restored in 1864 and became a museum in 1991. The dispensary of the Court Pharmacy in Plön (Schleswig-Holstein) is featured in November and shows an elegant set of mahogany drug runs and drawers, with labelled pots and glass jars. The dispensary was originally built in 1837 and moved once before returning to its original site, now a museum.

Seven apothecary jars from the German Pharmacy Museum in Heidelberg are shown for January. The jars are made of 'milk glass', also known as 'bone glass', since bone ash was added to produce the porcelain-like glass, and they bear colourful painted labels and cartouches. In April, 18th-century enamelled glass drug jars from various sources in the Dressendörfer collection are shown.

August is illustrated by various forms of tactile warnings for poisons. Glass tubes of duboisine sulphate (a mixture of hyoscyamine and hyoscine sulphates) dating from around 1900. The tubes are stored in a black wooden box for poisons. Other poisons shown are a glass jar with a wooden stopper cut with notches in a cross shape and labelled 'Rad. Ipecac. Rud. Tus.' A jar labelled 'Tritur. Heroin. Hydr. C.S. 1:100' evokes surprise, as diamorphine is no longer used in most of the world because of the potential for abuse, though considered an effective analgesic by the *BNF* for acute pain and palliative care. Considering the fallout from the Shipman case, perhaps Britain could be out of line.

A selection of eight original packs of early 20th-century medical products is shown for June, while three jars of animal medicines are the subject for October. The doctrine of signatures allowed the use of hares' ankle bones for speeding drug action, prepared toads for preventing the poisonous cause of the plague, and pike and perch jaws and teeth were used for stabbing pains.

Pharmaceutical pictures naturally form the major subjects. In February two miniature paintings from a 'liber amicorum' carried by a journeyman pharmacist on his travels during training show the pharmacy in Langensalza. May shows two pages from the Herbal Book of Leonhart Fuchs (1543). He was one of the first to provide naturalistic pictures of plants to aid identification in the field. A signed poster-sized package insert for Theriaca or Venice Treacle from an 18th-century Venetian pharmacy illustrates July. A copperplate allegorical print of Christ as medicinal agent, surrounded by pictures of herbal medicines and dating from around 1630, is the subject in December. A lime wood figure of St Cosmas carved by Platzer in Prague around 1770 completes the collection.

Each picture is well produced and worthy of further study, and the editor's notes in German and English provide excellent background information on the subjects and their provenance.

Ainley Wade

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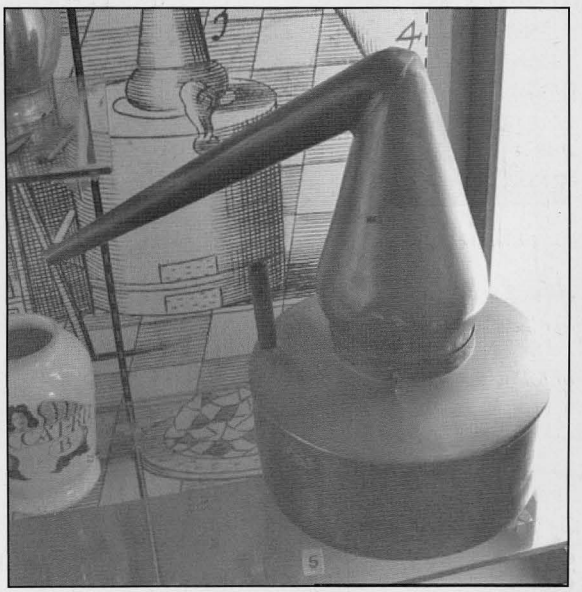
Joint Meeting with the Society of Apothecaries at the RPSGB Museum, Lambeth , June 2006

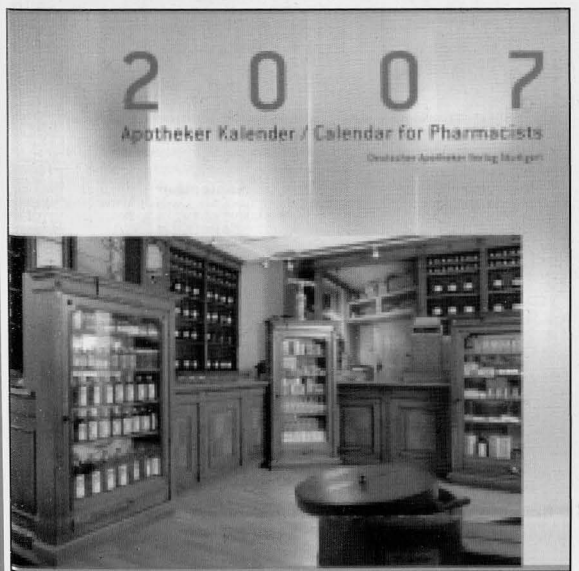
Briony Hudson, Keeper of Museum Collections

Sarah Butler, RPSGB Librarian

The audience in the modernised Committee Room



Metal alembic in new Museum display



Cover of the Calendar for Pharmacists 2007
(see Review opposite)

17th-century Delftware with apothecary's pill tile
Photos by John Stone

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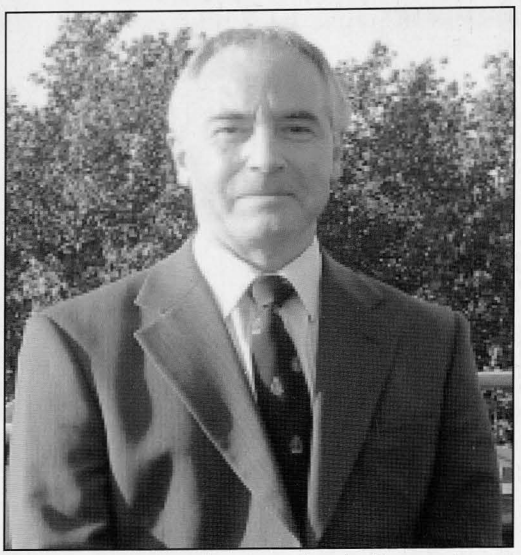


Capt. Peter Starling, speaker in September on 'Women in the Army Medical Services since the English Civil War

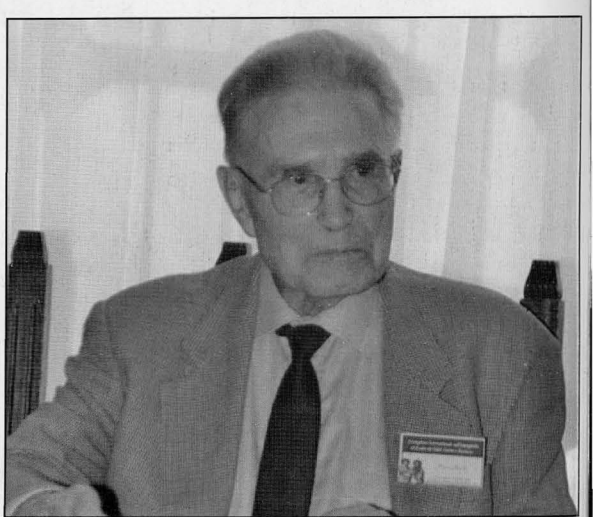
Second International Congress on the Iconography and Cult of SS Cosmas and Damian, September 2006

The Second International Congress was held in three towns, at Mercogliano, Altavilla and Nusco, in Avellino, Italy. The event gathered together a number of experts from the pharmaceutical and other fields, who spent three days not only discussing and exploring the fascinating branches of this cult, but also had the opportunity to visit the region of Irpinia. The Congress supported by Italian pharmacy bodies and was organised mainly by Patrizia Catellani, Amelia Nevola and Rita Testa, with many helpers, and the international delegates included François Ledermann, for the Presidency of the International Society for the History of Pharmacy and Wolf-Dieter Müller-Jahncke, President of the Académie Internationale d'Histoire de la Pharmacie. Visits were made to local churches, abbeys and a sulphur mine, as well as to an exhibition on the saints at Montevergine. Many papers were presented in historic surroundings during the three days and delegates were entertained at civic buffets and a Gala Dinner.

For more details of the Congress, e-mail Amelia Nevola at nevola.amelia@tiscali.it Photos of the Congress are available at www.farmasihistorie.com/galleri under Kongresser.

Isabella C. Grima

Ferdinando Taddei, Wolf-Dieter Müller-Jahncke and François Ledermann at the International Congress



Perre Julien (above)
Patrizia Catellani and Luigi D'Ambrosio Lettieri (left)
Photos courtesy of Nina Thune

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37th International Congress for the History of Pharmacy
University of Edinburgh, Scotland
22nd June – 25th June 2005

Dedicated to the memory of Dr John Anthony Hunt (1935-2005)
President of the British Society for the History of Pharmacy 1997-1999

Contents

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Opening Address by Hemant Patel, President, Royal Pharmaceutical Society of Great Britain

Lord Provost, Presidents, Ladies and Gentlemen,

I am delighted to have this opportunity of welcoming you all on behalf of the Royal Pharmaceutical Society of Great Britain, to this, the 37th Congress of the International Society for the History of Pharmacy in Edinburgh. As we have just heard this is the first occasion that this has been held in Scotland and while I fully appreciate the amount of work that organising this conference entails, I hope that it will not be the last occasion that you will visit these beautiful shores. Edinburgh in particular has a long tradition in the development of pharmacy and medicine, and is rich in history.

Talking of history in general, I must say that it is the basis on which civilisation evolves. Without knowledge of the past, humans would be forced to constantly relearn scientific discoveries, for example, in a continuing recycle. Comprehending antecedent events allows the observer to rectify errors and to develop and mature.

Being cognisant of one's history allows people to understand where they are now, how they got there and where they can go in the future. History is the most relevant material for an individual (and a society) to analyse because it allows them to benefit from previous experiences and advance. So we must continue to invest in history, culture and values.

It can also be understood as a widespread, intricate web that is interlocked through cause and effect as well as accident. Simply put, understanding the past allows persons to learn from their mistakes. History also defines society and outlines culture values and ethics. There is no more important subject than history to study, for it educates while improving on previous errors and adding to omissions. A people who know their history, know their future because the lessons of the past help one to avoid the pitfalls of the present.

Now returning to pharmacy, the Pharmaceutical Society, founded in 1841, established a North British Branch, as it was known, shortly afterwards. The 1852 Pharmacy Act granted Scotland a separate board of examiners, and the Branch established a library and museum, and held regular scientific meetings. The Branch moved to its current headquarters at 36 York Place, Edinburgh in 1884, and in 1886 became the executive body conducting the affairs of the Pharmaceutical Society in Scotland. It wasn't until July 1948 that the branch became the Scottish Department of the Society.

Today, the Society's Scottish Executive implements policy by working with the Scottish Parliament and other stakeholders in Scotland. The Department provides advice on a range of topics, including pharmacy law and ethics and the registration of pharmacy premises in Scotland. From personal experience and privilege I know that the Society organises evening meetings and a generally well attended annual conference.

The British Society for the History of Pharmacy was inaugurated by members of the Council of the Pharmaceutical Society with an interest in preserving and researching the history of our profession. Initially intended to be set up as a section of the Pharmaceutical Society it was decided that it would be the right decision to separate BSHP from the parent body, in order to respond to the ever changing influences in pharmacy. While this was a controversial decision and at that time it was met by some opposition, I hope that your members will agree that this has made the British Society into a more robust organisation that is well able to stand on its own feet. The organising of this conference is I believe evidence of this. BSHP has members worldwide, and it is great to be able to welcome you, alongside the other international visitors to this Congress.

The Pharmaceutical Society plays an important role in supporting the history of British pharmacy, predominantly through its Museum based at its headquarters in Lambeth, London. The Museum, first established in 1842, today answers enquiries from across the world, welcomes visitors to its displays, and provides access to its strong collections through a wide range of education and outreach work. The Society also maintains an archive of material relating to its own history and the history of the profession. The Museum, and the Society's Information Centre as a whole, works closely with BSHP particularly to answer the many enquiries that come its way.

It is therefore very encouraging to see from your attendance that you have delegates from many countries in Europe and further afield. The range of papers being presented covers a very wide spectrum of subjects showing that interest in the history and research in pharmacy is healthy. While I appreciate that University education in pharmacy history is taught more widely in many of our European neighbours, it gives us more reason for the British Society to press forward with its work and its cooperation with the International Society to ensure that pharmacy history continues to be appreciated and developed in the United Kingdom.

In conclusion, pharmacy history preserves our traditional and cultural values, and serves as a beacon light, guiding our profession in confronting various crises. History is indeed, as Allen Nerins puts it, 'a bridge connecting the past with the present and pointing the road to the future.'

For that reason, and many friendships with your members, I am delighted to lend this event my firm support and I take this opportunity to wish you all a very successful and enjoyable conference.

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The Evolution of Pharmacy in Britain

Dr John Hunt†
Southport

The practice of pharmacy in England and Wales has evolved differently from that in Scotland and in Continental Europe. During a lengthy period of development, a number of events brought about a shift in direction in England and Wales, which by the end of the nineteenth century resulted in a pattern of pharmacy practice significantly distinct from that seen in other European countries. In this short paper it is hoped to follow this evolution and to indicate some key influences.

Spicers, pepperers and apothecaries

The origins of the business of apothecaries and pharmacists are lost in the mists of time. In London during the Middle Ages spicers, pepperers, apothecaries and grocers were involved in the provision of materials used variously in the treatment of disease. These groups had combined in the Grocers' Company, a trade guild or City of London livery company, which was incorporated in 1428. The apothecary obtained herbs, spices and other materials and compounded medicinal preparations, supplying these as required and dispensing in response to the prescriptions of physicians, and hence was sometimes known as 'the physician's cook'. Some large households would employ their own apothecary in order to provide concoctions such as spiced wine in addition to medicines and household remedies. An apothecary was likely to be available in large monasteries and apothecaries were appointed to the sovereign and the royal households. Such offices still exist to this day. As the business of the apothecary developed and became more specialised, encouraged by the availability of novel materials from the New World, a wish arose for the establishment of a separate body from that of the Grocers' Company. Following efforts by the London apothecaries and some disagreement with the governing body of the Grocers' Company, the Society of Apothecaries was established in the year 1617 under a charter granted by King James I. This afforded certain powers and privileges that covered practice in the City of London and an area up to seven miles outside the city boundary.[1]

The College of Physicians

Meanwhile the physicians had been organising their own affairs. The College of Physicians was established in 1518. Its members were drawn largely from those holding doctorates from the universities of Oxford or Cambridge or perhaps from a major continental university such as Leiden. The College sought to control medical practice in England, supported by various Acts of Parliament, and proposed to examine apothecaries and to inspect their premises. However, the number of licensed physicians was small and insufficient to meet the needs of the whole population. The sick might seek assistance from a variety of providers: physicians, surgeons, apothecaries and a variety of unqualified quacks and charlatans as well as family members, friends and wise women. The apothecaries were in no mood to be governed by the College of Physicians or to see them secure a monopoly of medical practice. Disagreements between the College of Physicians and the Society of Apothecaries abounded, each accusing the other of straying into its own proper field of activity. Arguments, insults and the publication of critical pamphlets perpetuated the dispute.

Plague and fire

The services of the physicians were expensive and their clients were largely confined to the upper tiers of society, while others would make do with the apothecary, who was normally qualified through serving an apprenticeship, or with whatever help they could find or afford. Seventeenth century England experienced marked social problems. The Civil War commenced in 1642 with a major dispute between the forces of Parliament, led by Oliver Cromwell, and King Charles I and supporters of the Royalist cause. Following the supremacy of Parliament the King was

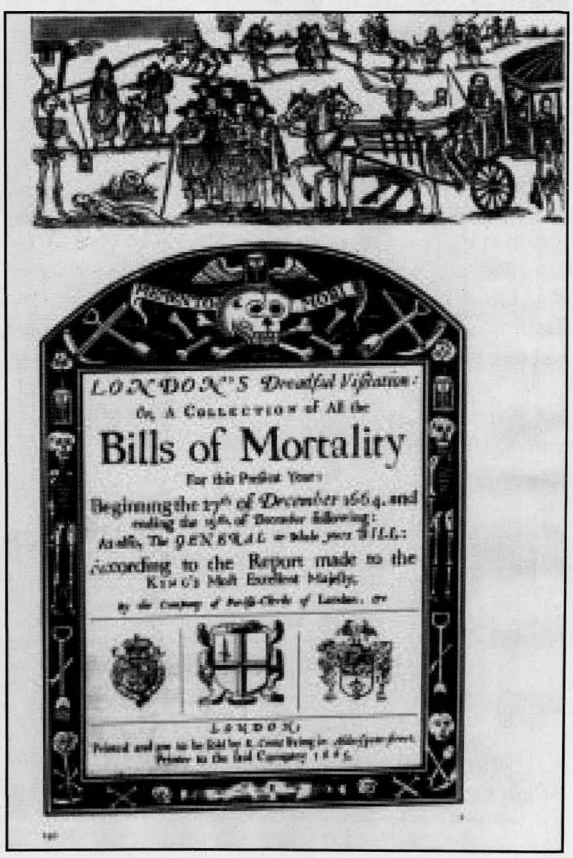

Figure 1. Bills of Mortality for the plague, 1665

† John Hunt died 8 December 2005.

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beheaded in 1649. During this period of turmoil the population of London largely supported Parliament, while the aristocracy and land owning classes largely supported the King, although both with numerous exceptions. The physicians tended to leave London in pursuit of their wealthy clients who moved to their country estates. The apothecaries largely, though not exclusively, supported Parliament and remained in the City. After the Commonwealth period, or interregnum, the monarchy was re-established with the return of King Charles II from exile in 1660. Shortly afterwards, in 1665, London suffered a severe epidemic of plague, resulting in almost 70,000 deaths (Figure 1). Once again, the majority of the physicians fled the City in pursuit of their patrons.

The following year the Great Fire of London destroyed some 13,000 houses, together with the Halls of the apothecaries and the physicians. Nothing daunted, the apothecaries rebuilt their hall without delay on the same site in Black Friars. When the physicians returned to London following absences brought about by these disasters, they found their influence in the Capital considerably reduced, the population having been reliant on the services of the apothecaries and other providers of medical aid. This greatly strengthened the recognition of the apothecaries as providers of general medical services and their standing in the eyes of the people. Some began to refer to their apothecaries as 'doctor', believing them to be equally entitled to the description as those holding doctorates from a university. This term was convenient to patients and gradually became the universal title for a qualified medical practitioner.[2]

The Rose Case

The dispute between the College and the Society continued, with the physicians determined to re-establish their position as the proper providers of medical attention in the face of the widely held favourable view of the apothecaries. In due course an opportunity arose for the College to take its position to the Courts in the hope of a ruling in their favour and against the apothecaries. An apothecary called William Rose treated a London butcher called William Seale in 1699-1700. Seale had spent a large amount of money on medicines supplied by Rose but his condition deteriorated. By tradition, physicians charged for consultation and apothecaries for medicines supplied – an obvious temptation to over-medication. Seale decided to take his complaints to the College in order to obtain redress against Rose. The College sensed an ideal test case and in February 1701 brought an action against Rose for treating a patient without the intervention of a physician. The Court found in favour of the College and declared that Rose had taken it upon himself to judge the disease and the fitness of remedy. But it was evident that Rose had only been following custom and

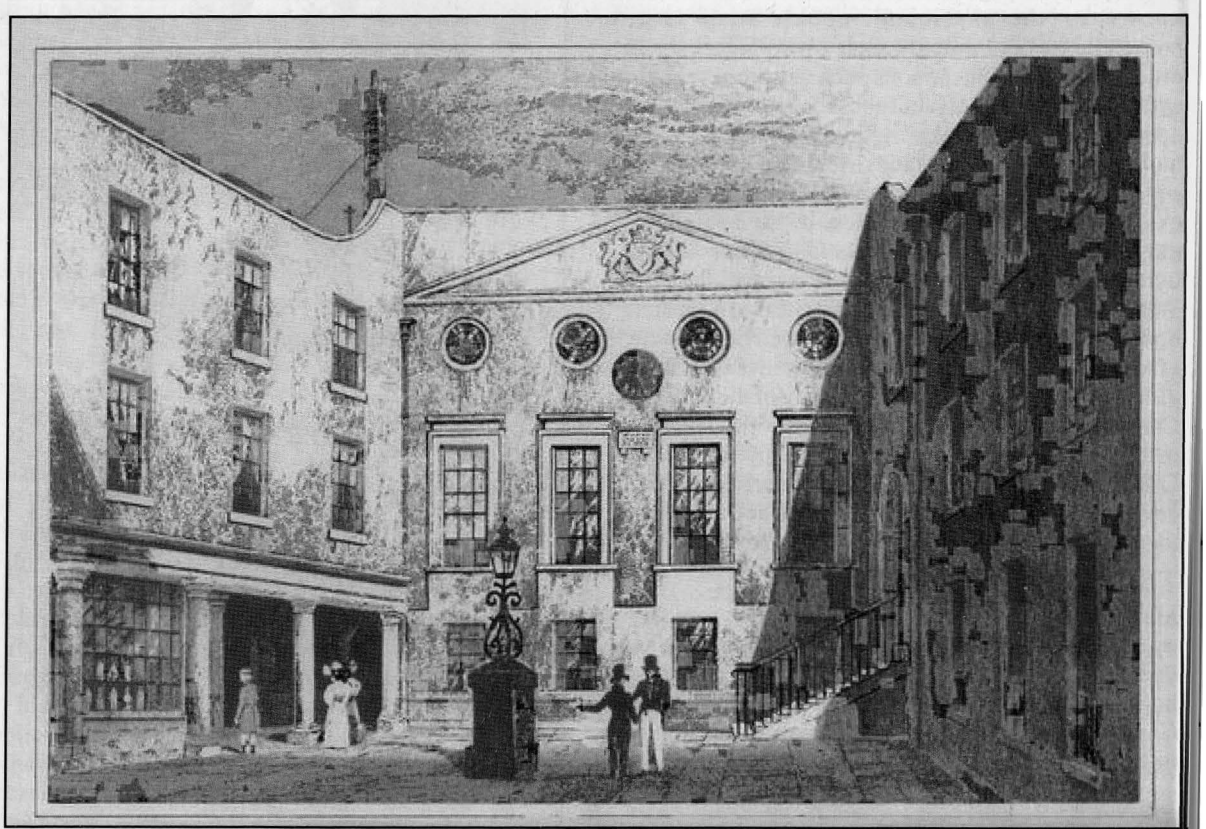

Figure 2. Apothecaries Hall, Black Friars Lane, London

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practice, which by that time was well established. The judge had described the College's action as 'extravagant' and the Society of Apothecaries supported Rose in taking the case to appeal, by bringing a 'Writ of Error' to the House of Lords. In March 1704 the Lords reversed the earlier judgement, holding that despite earlier Acts the trade of the apothecary in compounding medicines and supplying them was well recognised and that the physicians were seeking to establish a monopoly for themselves. This judgment legitimised the place of the apothecary in not only compounding medicines but also in diagnosing disease and prescribing treatment.[3]

The beginnings of general practice

The judgement in the Rose Case was to have long lasting effects. Apothecaries gradually took up the role we would now regard as that of the 'family doctor' or 'general practitioner', although these terms were not widely employed until the mid to later nineteenth century, when the terms 'apothecary' and 'surgeon-apothecary' were disappearing. At the same time some apothecaries continued to concentrate successfully on the business of pharmacy. For example an apothecary founded the major pharmaceutical business of Allen & Hanburys in 1715. From the 1770s only apothecaries who were pursuing a medical career or practice could join the livery of the Society of Apothecaries. A key feature of the movement of apothecaries into the general practice of medicine was the retention of their tradition of compounding and dispensing medicines, rather than writing a prescription to be dispensed elsewhere. In consequence the emerging general practitioner not only carried out consultation and diagnosis, he also dispensed and supplied any medicines that he regarded as being necessary for treatment. That established a tradition not reflected in the practice usual in Scotland or Continental Europe. The Rose judgment of 1704 was made before the Act of Union between England and Scotland of 1707 and had no force in Scotland, where the legal system remained separate.

The Pharmaceutical Society

In the early nineteenth century a heavy tax on the glass used for medicine bottles stimulated the apothecaries and surgeon-apothecaries, now well established in the general practice of medicine, to set up an association to protect their interests. A principal concern of the new association was the encroachment on their business of the emerging class of chemists and druggists. This was a developing class of traders who kept open shop for the supply of chemicals and drugs, as settled business premises gradually superseded market stalls in towns and villages. Seeing an opportunity, they had moved into the areas of compounding and dispensing, realising that many apothecaries, in their pursuit of medical services, were neglecting these. The chemists and druggists lacked formal qualifications and were regarded as 'improper persons' by the apothecaries. The association of apothecaries and surgeon apothecaries sought to introduce education, examination and licensing as a means of controlling the chemists and druggists. Representations to Parliament resulted in the Apothecaries Act of 1815, which empowered the Society of Apothecaries to examine, and to license to practise, apothecaries who had served a five-year apprenticeship and received 'a sufficient medical education'. However the Act gave the apothecaries no rights to interfere with the business of the chemists and druggists. The latter subsequently resolved, in 1841, to establish the Pharmaceutical Society of Great Britain. Through the promotion of education, examination and registration, this enabled the chemists and druggists to evolve into the pharmacists of the later nineteenth and the twentieth centuries.[4]

Doctor dispensing

The situation, in which the apothecaries, now general practitioners of medicine, mostly did their own dispensing of prescriptions, had profound effects on the practice of pharmacy in England and Wales. It has been estimated that by the beginning of the twentieth century some 90% of prescriptions in England and Wales were being dispensed by the doctors themselves or by their staff.[5] Many pharmacists rarely, if ever, received a prescription, despite being educated and trained in the art of dispensing. This compelled pharmacists to maintain their livelihood by the sale of medicines and allied products over the counter, prompting claims by the general practitioners about unqualified prescribing. All the legal controls over the business of pharmacy that the Pharmaceutical Society tried hard to secure, despite its efforts, related solely to examination and registration of pharmacists, and to the sale of poisons to the public. By the end of the nineteenth century, there were no controls over the activity of dispensing. Provided that the operation did not involve the sale of a poison, anybody could dispense a prescription. The result of this state of affairs was that the general public tended to regard the pharmacist as a shopkeeper, rather than a health professional. This impression has persisted until modern times and explains some of the differences between British and Continental pharmacies which, to the eye of the author, are still evident.

The National Insurance Act

A major change in prescribing and dispensing activities took place in the early twentieth century. In 1911 the Liberal Government of the day introduced the National Insurance Act. This aimed to provide compulsory insurance against illness for employed persons below a certain income level. It embodied entitlement to free medical consultation and the provision of medicines. When the Bill was introduced into Parliament, the Chancellor of the Exchequer, later Prime Minister, David Lloyd George, announced that

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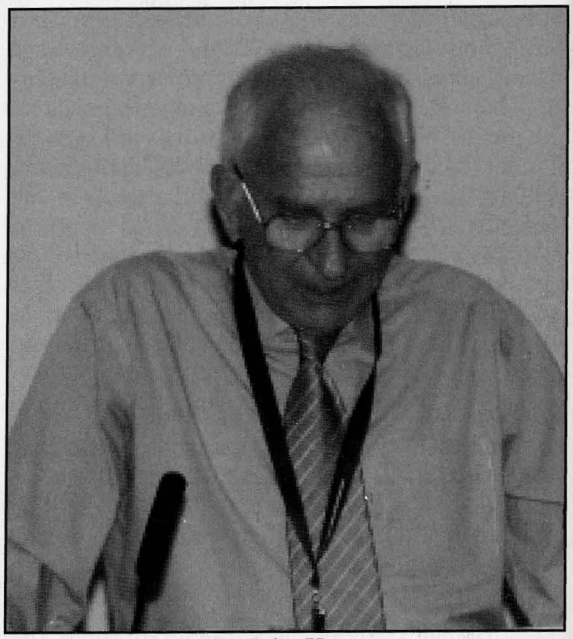
for persons insured under the scheme, some 14 million of the population, general practitioners would have to write a prescription which would then by taken to a pharmacist to be dispensed. This unexpected provision took the medical and pharmaceutical bodies by surprise and caused considerable concern among the doctors. It is believed that Lloyd George had modelled his scheme, to an extent, on the health insurance system introduced in the late nineteenth century in Germany by Bismarck. The change to pharmacy practice in England and Wales was marked. When the provisions of the Act became effective in January 1913 *The Pharmaceutical Journal* reported that 'the business of pharmacy had entered upon a new era'.[6] Shortly afterwards, a regular columnist in the *Journal* wrote: 'The lost art of pharmacy is reviving under the kindly influence of the National Insurance Act'.[7] Pharmacy in England and Wales was at last moving towards the patterns of practice existing in Scotland and most of Continental Europe.



Dr John Hunt

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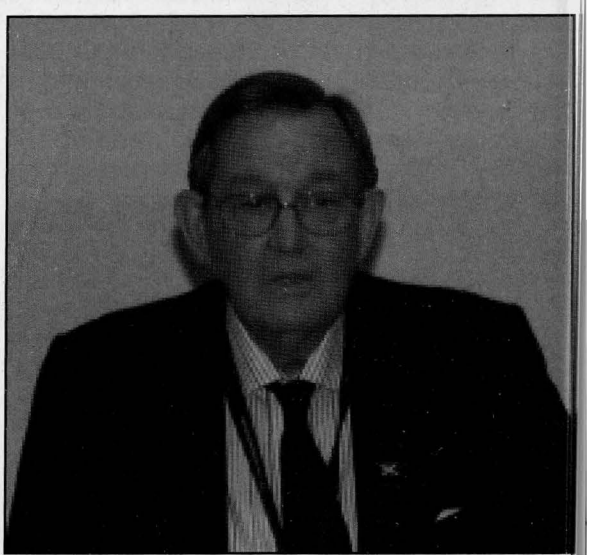
References

1. Hunting P. *A History of the Society of Apothecaries*. London: Society of Apothecaries, 1998: 11 et seq.
2. Copeman WSC. *The Worshipful Society of Apothecaries of London 1617 – 1967*. London: Society of Apothecaries, 1980: 46.
3. Hunt JA. Echoing down the years – the tercentenary of the Rose Case. *Pharm J* 2001; 266: 191-195.
4. Holloway SWF. *Royal Pharmaceutical Society of Great Britain 1841-1991*. London: The Pharmaceutical Press, 1991.
5. Ibid. p. 52.
6. Editorial. National Insurance Dispensing. *Pharm J* 1913; 90: 90.
7. 'Karshish'. Twixt the Pestle and the Porphyry. *Pharm J* 1914; 92: 173.



Dr Peter M Worling

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The Edinburgh Apothecaries

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Edinburgh

Early development of medicine

The early history of the medical services in Great Britain is of a constant jockeying for position and authority between the physicians, surgeons and apothecaries. The apothecaries had the advantage of keeping a shop; this meant their presence was easily seen and it was a simple matter to visit them without an appointment or calling out the physician. While supplying medicines they also gave advice. In December 1615 in London, the Worshipful Society of Apothecaries received a Royal Charter from King James I (see Hunt, p. S-3).

During the 18th century the position and influence of the apothecaries in London was consolidated. The Royal College of Physicians, originally founded in 1518, were resentful of the success that the apothecaries enjoyed and they blamed them for taking away their business and not only supplying medicines, but also diagnosing disease; which they were in fact doing.

The dispute came to a head in 1701-1704 when a legal test case was brought by the College of Physicians against an apothecary, William Rose. The final judgement of the House of Lords was that the apothecary was entitled to give advice and treatment. Following this many apothecaries moved into the field of medical practice and in due course the apothecaries developed from compounders of medicine to general medical practitioners. Their role in dispensing medicines was taken over by the chemist and druggist shops which were established from the 18th century onwards (*see* Hunt, p. S-5).

In Edinburgh by contrast, the position was different. The apothecaries were kept in check by both the physicians and the surgeons. They guarded their monopolies with vigour and although the apothecaries tried to encroach on the work of the physician by diagnosing disease as well as supplying medicines and of the surgeons by bleeding, they made little headway.

At this time the surgeons and the barbers worked closely together. In 1505 they jointly petitioned the Town Council of Edinburgh to be enrolled as an Incorporated Craft of the Burgh (a Guild). In their petition the members undertook to be responsible for the proper education of the craft members.

> And als That everie man that is to be maid frieman and maister amangis ws be examit and previt in thir poyntis following THATT IS TO SAY That he knaw anotamea nature and complexion of every member In manis bodie. And in lykewayes he knaw all the vaynis of the samyn that the mak flewbothomea in dew tyme. And als that he knaw in quhilk member the signe hes domination for the tyme for every man aucht to knaw the nature and substance of every thing that he wirkis or ellis he is negligent.

The '*Seal of Cause*' was granted on the 1st July 1505. This united the surgeons and the barbers as one of the Crafts of the Burgh and effectively gave their members a monopoly.

Apothecaries

The apothecaries did not have the benefit or protection of an Incorporation. Generally however, the relationship between the apothecaries and the surgeons did not cause many problems. There were disputes between the two professions. In 1575 the Surgeons complained that the apothecaries

> daillie wsit and exercisit yt sayd craft (surgery) they nather being friemen their of nor previligt thr to.[1]

There were probably other complaints, but the apothecaries seem to have lived reasonably peacefully with the other crafts. One reason was that they were few in number, possibly no more than eight.

A more serious dispute arose in 1643 concerning the division of responsibility between the surgeons and the apothecaries. The Town Council convened a meeting of the two parties at which they agreed that 'the application of sear cloths (mort cloths) to dead bodies, all manual applications about dead or living bodies and the curing of diseases such as tumours, wounds, ulcers, luxations, fractures and the curing of virolls should be restricted to the surgeons, the administration of medicines inwardly was the only liberty of the apothecary'. This agreement was made an Act of the Town Council.[2] It is worth remembering that surgery was a crude activity and the surgeons of the time had a low standing.

Surgeon–Apothecaries

The political situation now took a hand. In early 1644, as a result of the signing of the 'Solemn League and Covenant' by the rump of the English Parliament and the Scottish Covenanters, a Scottish force of 26,000 men, under the leadership of David Leslie, invaded England and joined with Oliver Cromwell.

Accompanying the Scottish army were two apothecaries, James Borthwick and Thomas Kincaid. In return for the assistance that they had given to the surgeons during the campaign, they were both admitted as members of the Incorporation of Surgeons, although neither of them had undergone an apprenticeship as surgeons.

Borthwick and Kincaid were held in high esteem and because of their influence; the dispensing of medicines began to be taught alongside surgery. This proved to be a more acceptable combination for the apprentices and more chose this than the alternative combination of barber and surgeon. The result was the formation of the Surgeon–Apothecaries as a Fraternity, set up by a Town Council Act of 1657. This was subsequently ratified by Parliament in August 1670.[2]

As they were not recognised as an Incorporation in their own right, this had the effect of bringing the apothecaries under the protection of the surgeons. However they could not carry out any surgical procedure; this included blood letting which the Apothecaries were doing from time to time, although they were careful not to call it such in any invoices.

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The Decree of Separation

In 1680 the Incorporation of Surgeons brought a prosecution against Patrick Cunningham, an apothecary, for allegedly carrying out surgery, including blood letting. He was not prepared to bow down to the surgeons and he brought a counter prosecution against the Incorporation of Surgeons and the Surgeon–Apothecaries. The substance of his case was that pharmacy and surgery were two distinct trades and employment, which should not be practised by the same person. This became a test case between the professions and eventually was brought before the Court of Session.[2]

The Judges of the Court of Session agreed with the apothecary's submission and in 1682 granted a Decree of Separation. This ruled that within the City of Edinburgh one and the same person could not be employed both in surgery and pharmacy. At this time there were ten surgeons, ten surgeon–apothecaries and six surgeon–barbers, as well as the simple barbers. They had to choose whether to become members of the Incorporation of Surgeons or join the Fraternity of Apothecaries. In the event, only one Surgeon–Apothecary chose to join the apothecaries, which was in future known as the Fraternity of Apothecaries. The apothecaries were now on their own, with both the surgeons and the physicians determined to exercise control over them. Each quoted the legislation which they thought was favourable to them, irrespective of whether this was current legislation or not.

The physicians were granted a charter in 1681 to form a Royal College of Physicians, despite strong objections from the surgeons who felt it encroached on their privileges. A dispute arose on who should be responsible for visiting the apothecaries' shops. The physicians based their claim on their newly won charter which complicated the situation by granting the College of Physicians the right to supervise Apothecaries shops. The Surgeon–Apothecaries objected as they felt their rights to examine apothecaries given to them in the Act of 1657 were being infringed.[3] However, the Privy Council by a further Act of November 1684 gave the President and others of the College of Physicians the right of inspection, on the grounds that the physicians should be convinced and satisfied that the apothecaries that dispensed were qualified to do so and the drugs were good and sufficient.[4]

Surgeons and apothecaries combine

The surgeons were not prepared to let matters rest. In 1684 they gave notice that they intended to continue admitting apothecaries to the Incorporation and they succeeded in getting the Town Council to agree to a surgeon being appointed as sole inspector of the apothecaries' shops. A surgeon–apothecary was also elected as inspector in 1687, but the apothecaries objected and appealed to the Lords of the Session who overruled the Town Council and appointed an apothecary in his place.

In 1694 King William III and Queen Mary granted a patent in favour of the surgeons and surgeon–apothecaries which was ratified by Parliament in 1695. This William and Mary Patent overturned the original 'Decreet of Separation' and would have had the effect of combining surgery and pharmacy again. The apothecaries felt that once more they were losing their rights. They approached Parliament and made their case for surgery and pharmacy as two separate disciplines. They quoted a number of cases where the surgeons had 'oppressed' apothecaries; these were mostly in situations where there had not been a surgeon available and the apothecary had treated a wound or bled the patient.

It appeared to the surgeons that this was a controversy that was going to last for a long time. They were in a bad way financially. A dispute with the barbers which lasted for four years with legal actions on both sides had virtually bankrupted the Incorporation, so they were not in a position to have a long running legal wrangle with the apothecaries. The radical solution they proposed in 1721 was to offer membership to all the fifteen Edinburgh apothecaries to be admitted as free surgeons on payment of £50 each. All were admitted and the Edinburgh apothecaries returned to the surgeons' fold as freemen of the Burgh, but they still practised as Apothecaries.

Physicians and pharmacy

The Royal College of Physicians wanted more control over their members. In 1750 the College passed an Act stating

> No person who is a member of the Corporation of Surgeons or Apothecary's, or keeps an open shop for the dispensing of medicines shall be admitted fellow of the College.

After heated debate another act was passed in 1754 which was clearly intended to separate the two professions. This stated that no member of the College or any physician licensed by them to practise 'physic' within the city may employ an apothecary or keep an apothecary's shop and all applicants for a licence to practise in the city had to give an undertaking not to open an apothecary's shop or practise pharmacy. Many practitioners continued to supply medicine to their patients and the matter was finally concluded in 1823 by an amendment to the Act of 1754 which read

> If any Fellow or Licentiate of the College shall, by himself, or co-partners, or servants, keep a public Apothecary, Druggists or Chemist shop, he shall ipso facto forfeit all the rights and privileges which he does or may enjoy as a Fellow or Licentiate of said College, and his name shall be expunged from the list.[4]

This only applied in the city of Edinburgh and made little difference elsewhere in Scotland. Many medical practitioners continued to dispense medicines and they considered the supply of medicines an essential part of their income, particularly in the country districts.[5]

The Royal College of Surgeons

The surgeons saw how the physicians' status had grown through education and the founding of their Royal College, which had enabled them to regulate their profession, and in 1778 the Incorporation of Surgeons was granted a Royal Charter to form the

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Royal College of Surgeons of Edinburgh.

In 1806 the College of Surgeons decided to revise the examination regulations. One reason given was the ignorance of candidates in pharmaceutical and chemical knowledge. It was believed that this was due to the neglect of their practical education which could only be gained by serving an apprenticeship. It was ruled that candidates had to serve an apprenticeship of three or more years and attend lectures on anatomy, surgery, chemistry and the practice of medicine. The examination requirements were expanded and by 1828 included Chemistry and Materia Medica although there were no requirements for studying the practice of pharmacy or compounding. It was considered best to teach this by practical experience during the apprenticeship period.

A Diploma in surgery continued to be a route into pharmacy. In the 1842 Edinburgh Directory,[6] under the heading 'Apothecaries, Chemists and Druggists' there are 53 entries. Twenty of these are listed as surgeons. They include Thomas and Henry Smith of 21 Duke Street, Edinburgh , the founders of the pharmaceutical manufacturers T & H Smith. William Flockhart of Duncan and Flockhart, North Bridge, Edinburgh was also a surgeon although he did not practice surgery.

The chemist and druggist

From the middle of the 18th century an alternative source of supply for medicines and medical treatment started to emerge. These were the shops of the Chemists and Druggists. The services of the Surgeon, Physician and Apothecary had always been available to those that could afford it. The poorer section of the population, when they were ill, had to rely on the help they could get from neighbours, friends and sometimes the quack practitioner. With the movement of population into the cities, the local availability of herbs and the knowledge of their use, which was a skill retained by older members of the community, was no longer available. This was coupled with the growing wealth of the population, who were able to call on the chemist for advice and to purchase either counter-prescribed remedies or the growing range of proprietary medicines which were being advertised to the public.

The growth of the chemist and druggist in the early part of the 19th century was due in part to the emphasis on free trade and this led to a waning in the power of the Guilds to maintain their monopoly over business. Apprentices were taken on by the chemists and druggists and when they had finished their period of indenture opened their own business. In Edinburgh one of the first chemist and druggist shops was opened by H. B. Wylie, Chemist and Druggist, 38-40 Grassmarket in 1797. There is no evidence of any action being taken to prevent this business trading; possibly this was because it was in the old burgh of Portsburgh and therefore fell outside the jurisdiction of the Edinburgh City Guilds.

During the 19th century the work of the apothecary and the chemist and druggist became synonymous in the city of Edinburgh. The Pharmaceutical Society was formed in 1841 and, although initially there was little interest and only nine pharmacists around Edinburgh joined the fledgling Society, its influence grew. It placed a great emphasis on education. Initially students had to travel to London to take the examinations, but in 1852 the Pharmaceutical Society elected an examining body for pharmacy in Edinburgh and the qualification of the Pharmaceutical Society became the route to follow to qualify in pharmacy. The surgeons and physicians by this time had established their rightful roles and no longer felt threatened by the apothecary or the chemist and druggist, although it was not until the introduction of the first National Health Service in 1911 that physicians were prepared to give up their dispensing practices. Even then the regulations allowed dispensing doctors to continue in rural areas.

Conclusion

In the south of England the apothecary was the forerunner of the general medical practitioner. In Edinburgh, despite attempts by the apothecaries to extend their role and to carry out other responsibilities as well as the supply of drugs, the power of the of the surgeons and the physicians was sufficient to restrict the apothecaries to the supply of medicines only.

Their one chance of breaking out was when they were granted a Decree of Separation in 1682. However the surgeons and physicians were determined to ensure the apothecaries were controlled by them and probably because of the small number of apothecaries the chance was lost.

The opportunity for maintaining their independence in the city was finally lost when the remaining fifteen apothecaries were admitted into the Incorporation of Surgeons in 1721. Although the route into pharmacy continued for a time to be by serving an apprenticeship with a surgeon, followed by membership of the College of Surgeons, the supply of medicine was passing into the hands of the chemist and druggist. With the formation of the Pharmaceutical Society of Great Britain and the establishment of an examination board in Edinburgh, the age of the apothecary came to an end.

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References

1. Royal College of Surgeons. Miscellaneous Documents Collection, 108/2 20 August 1575.
2. Cresswell, Clarendon Hyde. *Royal College of Surgeons Edinburgh 1505-1905*. Edinburgh: Oliver and Boyd, 1926.
3. Craig, W.S. *History of the Royal College of Physicians of Edinburgh*. London: Blackwell Scientific Publications, 1976.
4. Eccles, W. *An Historical Account of the Rights and Privileges of the Royal College of Physicians and of the Incorporation of Chirurgions in Edinburgh*. Privately printed, 1707.
5. Jenkins, J. *Scottish Medical Societies 1731-1939*. Edinburgh University Press, 1993.
6. *Post Office Edinburgh Directory*, 1842-1843.

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Community Pharmacy and the Rise of Welfare in Great Britain 1900 to 1986

Dr Stuart Anderson

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Introduction

The relationship between the state and the health professions has always been a dynamic and complex one. The professions have sought to influence policy in a way which benefits their members, often by the drafting and passing of legislation. Governments, on the other hand, have usually sought to safeguard the safety of the public and to balance the demands and expectations of different groups by regulating the professions.

This paper illustrates this dynamic process by reference to the development of the pharmacy profession in Great Britain during the first half of the twentieth century. It focuses on pharmacy in the community, and on one particular role of the state during this period, that of introducing and developing the welfare state. It demonstrates that the development of the welfare state had a central role in the shaping of the pharmacy profession in Great Britain; but that at the same time the pharmacy profession itself was able to influence the shape of the welfare state.

The paper begins with a description of the evolution of the welfare system in Great Britain, from its origins in the nineteenth century to the legislative reform programmes of the twentieth century. It also briefly reviews the development of pharmacy in Great Britain before the first major welfare reforms. It goes on to consider how pharmacy was able to help shape welfare provision at each of the major watersheds, in 1911 and again in 1946 and to consider what impact implementation of the welfare state had on the practice of pharmacy on each occasion. It concludes with a brief account of how pharmacy has developed subsequently, and reflects on the relationship between the state and the pharmacy profession during the twentieth century.

Welfare in Britain before 1911

During the reign of Queen Victoria, from 1834 to 1901, state provision for the destitute was based on the Poor Law of 1834. The aim was not to relieve poverty, but to force the working man onto the labour market. Relief was offered only on the most humiliating and degrading of terms. The object was to deter the poor from applying for relief, and at this it was highly successful. Although by 1900 around 30 per cent of the population lived in poverty, less than 3 per cent were in receipt of poor relief.

A system of public relief which was made deliberately odious for its recipients forced those that were in a position to do so to make more humane provision for themselves by relying on mutual help. A number of organisations emerged to meet this demand. By mid-Victorian times mutual help Friendly Societies in particular had become major providers of social security. These were the product of the increasing social interaction created by the growth of towns, driven by the continuing thrust of the industrial revolution.

Friendly Societies were originally created as much for conviviality as for mutual help. People who shared religious belief, occupation or simply area of residence would help each other in times of misfortune, not by special appeal, but by creating a common fund. This provided security against poverty through illness, or the expenses of a funeral. By 1815 around 8.5 per cent of the population belonged to a Friendly Society of some kind, and over the next 80 years the movement grew rapidly. In 1900 the Registrar of Friendly Societies reported the existence of nearly 24,000 friendly societies and branches, with nearly 4.5 million members. This was roughly half the male adult population of Great Britain.

Some of the societies were by this time large national bodies. The two largest, the Manchester Unity of Odd Fellows, and the Ancient Order of Foresters, each had over 700,000 members. In addition to the friendly societies were the trade unions. These were much more exclusive, and in addition to sickness and death benefits most offered unemployment pay. But for each trade union member there were four members of a friendly society.

So by the early twentieth century there was at least a basic system of welfare, and those not in friendly societies or trade unions could, as least in theory, fall back on the Poor Law provision. Furthermore, there was an infrastructure in existence for the collection of contributions and the giving of relief. In return for a contribution of between 4d and 8d a week (between 1 and 2 per cent of a weekly wage) members received sick pay (about 10 shillings per week), medical care, usually provided by a doctor under contract to the society, and death benefit of between £10 and £15. But in reality there were still many with no safety net at all.

Pharmacy in Britain before 1911

Pharmacy in Great Britain underwent a radical transformation during the course of the nineteenth century. The Apothecaries Act of 1815 enabled apothecaries, who traditionally had both treated patients and supplied their medicines, to become general medical practitioners. Most of them chose to do so rather than continue as retailers of medicines. There was however, another group, without any training or qualifications, which was involved in the supply of medicines, and this was the chemists and druggists. In the early decades of the nineteenth century their numbers rose to fill the gap created by the change in role of the apothecaries.

A small number of apothecaries, largely those involved in wholesaling and city retailing, were anxious to raise the status of this group, largely through education and

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qualifications. To this end the Pharmaceutical Society of Great Britain was established in 1841, with the aim of 'benefiting the public, and elevating the profession of pharmacy by furnishing the means of proper instruction'. The new body set about seeking state support for its objectives, and obtained a Royal Charter in 1842. Among its early achievements were the opening of a school of pharmacy, and the establishment of a system of examination and qualification.

The profession had a number of early successes, including a Pharmacy Act in 1852, which established the first Register of Pharmaceutical Chemists and gave them certain privileges such as the exclusive right to use certain restricted titles, including 'pharmacist' and 'dispensing chemist'. A separate register for a lesser qualified group, the chemists and druggists, was established in 1868. So by this time the process of professionalisation of pharmacy was already well advanced. There was a recognised educational programme, involving apprenticeship followed by one or two years at college: there were separate statutory registers for both and for pharmaceutical chemists who had completed an extra year at college; the Society was charged with maintaining the registers and the profession even had its own weekly *Pharmaceutical Journal*.

Pharmacy's leaders were successful in lobbying the government in other areas where their members might benefit financially. A system of pharmaceutical regulation of poisons, enacted through the Pharmacy and Poisons Act of 1868, led to pharmaceutical chemists becoming the custodians of the nation's poisons, and the arbiters of who should have access to them. Initially this control was limited to twenty poisons, including opium, strychnine and arsenic, but the range of substances controlled in this way was later extended substantially in the Pharmacy and Poisons Act of 1908.

By the beginning of the twentieth century the place of the retail chemists in Great Britain was well established. They were distributed throughout the country, and although chains were developing fast, most chemists were independent proprietors. Theirs was a varied business. At its core was the sale of patent medicines, ingredients for home remedies, and nostrums made to their own formula. Most also had substantial trade in toiletries, cosmetics and perfumes. At the turn of the century most were also doing good business in photographic requisites, and many also sold tobacco products and alcoholic beverages. Some also practised as dentists and opticians. But very few saw a prescription written by a doctor: although the friendly society contracts with doctors included the supply of medicines, most doctors did their own dispensing.

The shaping of national health insurance 1911

The trigger for the welfare reforms at the beginning of the twentieth century was the election of a Liberal government in 1905. There followed a steady stream of reforms covering a wide variety of public services. Concerns for the considerable numbers of people who were not covered by any health insurance scheme were raised by a number of campaigners, and developments in Germany were held up as a model of what could be achieved. Since 1889 Germany had had a system of widows, orphans, and invalidity pensions as part of Bismarck's general scheme of compulsory social insurance.

The task of reforming health insurance fell to David Lloyd George. He was looking for a way of replacing the Poor Law with a far-reaching programme of unconditional payments. Such a system could not be supported by taxation alone. There would have to be a contribution from the beneficiaries themselves. He realised that any such system would come into competition with the friendly societies which already offered these benefits to some of the population. He proposed to bring them into his programme by offering a government subsidy to extend mutual aid to those sections of the working class so far excluded from insurance.

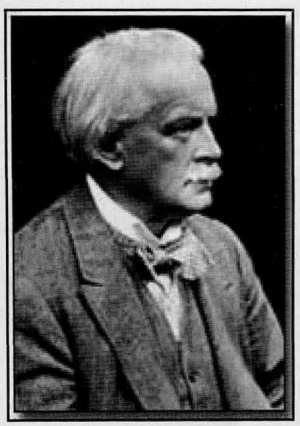

Figure 1. David Lloyd George
Liberal MP and Chancellor of the Exchequer

In the original version of the National Insurance Scheme the friendly societies lobbied hard, and they were given a privileged position. The intention was that they would be the principal administrators of both the cash benefits and the medical and pharmaceutical services provided. But the same would apply to industrial assurance companies, which had no wish to administer any form of medical treatment, or to have to deal with local management committees. These committees were to administer arrangements under which doctors and pharmacists did work for friendly societies. But neither the doctors nor the pharmacists wanted to work for the friendly societies, and they certainly did not want those societies administering medical and pharmaceutical services.

When Lloyd George presented his bill to Parliament in May 1911 the Pharmaceutical Society was ready. Lloyd George announced that the friendly societies were to arrange with chemists for the supply of medicines and appliances under the scheme. He said that he had no

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doubt that they would make as advantageous terms with the chemists as they had in the past with the doctors.

However, immediately afterwards a spokesman for the friendly societies indicated that they would not necessarily use the chemists, but would themselves establish their own dispensaries in all the large towns. One of the biggest, the Manchester Unity of Odd fellows, proposed the setting up of a central dug store, and branch dispensaries, to be controlled and administered by themselves. Soon, the friendly societies began to canvass support for the setting up of a factory for the preparation of galenicals, drugs, chemicals and sick-room requisites, which would then be distributed to depots around the country.

The pharmacists were quick to respond. The Pharmaceutical Society claimed that these proposals would deprive qualified chemists of some 14 million customers per year. *'The effect on pharmacists would be disastrous'* declared the *Pharmaceutical Journal*. It argued that the existing network of chemists shops should be used, rather than the creation of new establishments. Yet even without these, participation of the pharmacists in the national insurance scheme would involve negotiation with the friendly societies. *'If there is any bargaining to be done, it should be done with the government'* said the *Pharmaceutical Journal*.

Figure 2. Sir William Glyn Jones
Courtesy of the Museum of the Royal Pharmaceutical Society

On 1 June 1911 a deputation of pharmacists organised by the Council of the Pharmaceutical Society was received by the Chancellor of the Exchequer in his rooms at the House of Commons. It was led by William Glyn Jones, the Society's secretary and registrar. Glyn Jones detailed seven principles which pharmacists wanted incorporated in the National Insurance Bill. These are illustrated in Table 1.

These principles effectively guided the pharmacy profession in its dealings with government in relation to welfare for the rest of the century. The Pharmaceutical Society took the view that insured persons should be supplied with medicines in exactly the same way as the rest of the public, by using the facilities already provided by private enterprise. In this way the sick would be able to obtain their medicine promptly and with the minimum of inconvenience. Just as medical treatment was to be given only by duly qualified medical practitioners, the Pharmaceutical Society argued that medicines supplied to the insured should only be dispensed by legally qualified chemists.

Table 1: Pharmacy's Seven Principles

1. That no agreement for the supply of medicines for insured persons should be made except with a person, firm or corporate body entitled to carry on the statutory business of a pharmaceutical chemist or chemist and druggist, in conformity with the Act of 1908;
2. That the dispensing under the Act should be done under the direct supervision of a pharmacist;
3. That the control of medical and pharmaceutical services to insured persons should be in the hands of the country health (later 'insurance') committees, and NOT under the control of Friendly Societies;
4. That a panel of all qualified pharmacists in a particular district willing to supply medicines under the scheme should be set up, so that insured persons could choose their own suppliers;
5. That remuneration for pharmacists should be on a scale system, and not on a per capita basis;
6. That pharmacy should be represented on the country health committees, the advisory committees, and the Insurance Commission; and
7. That medical benefit should not be extended to persons earning more than £160 per annum.

The Act which was eventually passed incorporated most of these principles. It applied only to less well off workers, those earning less than £160 per annum. It was a contributory scheme, involving contributions from the employee, the employer, and the government. It did not apply to workers' dependants, wives and children. Its provisions included general medical services and the supply of medicines. 'The first thing that I think should be done' said Lloyd George, 'is to separate the drugs from the doctors'. He was anxious to ensure that there was no inducement for underpaid doctors to take it out in drugs. The experience of both the Poor law and the Friendly Societies was that whenever doctors received an inclusive fee for attendance and medicines, the temptation to use cheap drugs was not easily resisted.

The impact of health insurance on community pharmacy

The National Insurance Act became law on 15 July 1912. However, the provisions relating to medical benefit were postponed a further six months, and the

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first prescriptions written under it did not reach chemists shops until 15 January 1913. The bill had left many details unsettled including doctors' remuneration. The financial arrangements offered to the pharmacists were not as generous as those to the doctors, but nevertheless British pharmacists did not hesitate to serve under the Act. It was felt that the national insurance scheme might help the chemist in working class areas by providing him with a useful supplement to his income, and an opportunity to practice his dispensing skills.

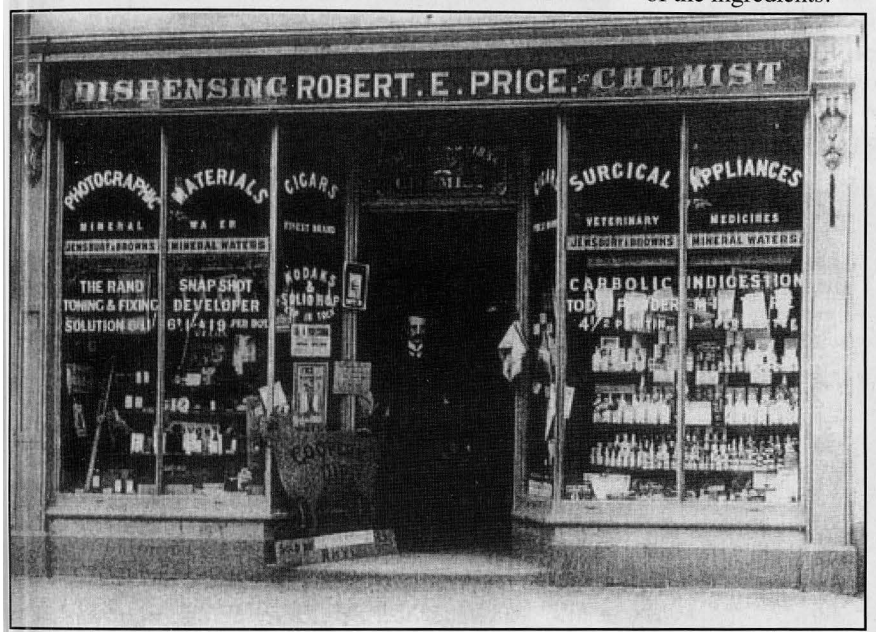

Figure 3. Robert E Price Dispensing Chemist, Rhyl, North Wales, 1909

Courtesy of the Museum of the Royal Pharmaceutical Society

The *Pharmaceutical Journal* records that the first prescriptions dispensed under the new insurance scheme was dispensed at 8.40 am on the first day. The numbers of prescriptions presented caught the chemists completely by surprise. Within a year the numbers presented were more than three times what they had been previously. Numbers rose from below fifteen million to over fifty million per year. Many pharmacies did not have the basic equipment or the right ingredients to meet the demand.

The influx of prescriptions varied according to the social class composition of the area. In a prosperous area of west London the years' takings from national insurance dispensing was only £25 11s. 1d, representing less than 1 per cent of turnover. In depressed Rotherhithe, on the other hand, the takings were £616 9s. 8d, representing nearly 60 per cent of turnover. Pharmacies in the densely populated working class areas, which had previously dispensed only one or two prescriptions per week, were now receiving several hundred per week.

Dispensing such large numbers of prescriptions was not without its drawbacks. Pharmacists had to price their own prescriptions. They had to be on the panel of each area for which they dispensed prescriptions, so those in London were often on the lists of numerous insurance committees. Copies of many prescriptions had to be entered in the prescription book to satisfy poison legislation. And dispensing was extemporaneous, with each medicine being made up individually. The dispensing fee for a bottle of mixture was two pence, the highest fee being six pence for a dispensed plaster. The chemist was paid this plus 150 per cent of the cost of the ingredients.

The National Health insurance scheme was important to retail pharmacy in two ways. First, in the recognition it gave to the principle that dispensing should be limited to pharmacists; and second in the volume of business it brought to pharmacies. But it also laid the foundations for future contractual arrangements between the pharmacy profession and the government. It enabled companies as well as individual proprietors to contract to provide dispensing services; it rejected the idea of a salaried service for the dispensing of National Health Insurance prescriptions; and it established a contract based on unit of service rather than per capita. All these elements were to be of crucial importance with the coming of the National Health Service in 1946.

The shaping of the National Health Service 1946

The period between the two world wars was one of gentle tinkering with welfare rather than radical reform. The income limits below which cover was provided were slowly raised, to £250 in 1920, and to £420 in 1942. By 1946 some 20 million people, representing around 43 per cent of the population, were covered. However, benefits to women workers were cut, on the grounds of financial stringency, in 1915, and again in 1932.

Between 1918 and 1939 the British government added various further measures of health provision. A number of associated measures some dating from before the NHI Act of 1911, aimed to provide medical supervision and treatment for a range of social groups whose welfare was of concern to the state. There was a venereal diseases act in 1917, a maternal and child welfare act in 1918, a midwives act in 1922, and a cancer act in 1939. The Poor Law was finally reformed in 1929, resulting in the transfer of the Poor Law Infirmaries and Infectious Diseases hospitals to the municipal authorities.

For community pharmacy this was a period of relative stability. The number of prescriptions written by doctors

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rose steadily rather than dramatically, from around 50 million per year in 1920 to around 70 million a year in 1940. This level of prescribing provoked a discussion in government about over-prescribing by doctors, but for the typical pharmacist the dispensing of prescriptions written by panel doctors remained a relatively minor activity. Much of the population remained uncovered by insurance, and retail chemists continued to spend much of their time on traditional duties, such as making and supplying nostrums (something for a cold, a sore throat or for indigestion) and the selling of patent medicines. There was still a brisk trade in the sale of ingredients for domestic remedies. Pharmacists frequently provided free diagnosis, free advice, and cheaper medicine than the doctor.

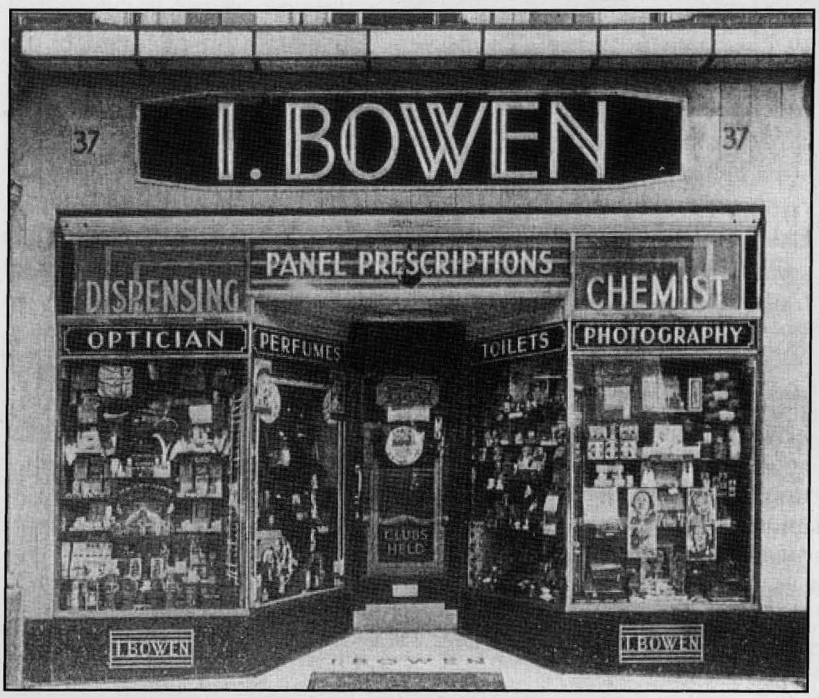

Figure 4. I. Bowen pharmacy, London, 1930s
Courtesy of the Museum of the Royal Pharmaceutical Society

By 1937 practically all chemists shops in Britain were in the insurance scheme. There were about 13,00 of them in England and Wales, and a further 1,800 in Scotland. The nature of the contract slowly evolved, and by 1937 chemists were paid on the basis of the cost of the ingredients, calculated according to a standard price list, together with a dispensing fee regulated according to the nature of the article dispensed. There was also a useful trade in the dispensing of private prescriptions. However, in England and Wales most doctors continued to do this themselves, with only about 20 per cent finding their way to pharmacies. In Scotland, about 90 per cent of doctors wrote prescriptions for their private patients to take to the chemist's shop.

For the Pharmaceutical Society plans for a National Health Service were much less contentious than had been the plans for a National Insurance Scheme forty years earlier. It was seen largely in terms of an extension of the existing National Insurance Scheme to the whole population. The new service was to be free to all at the point of delivery. It was divided into three distinct parts: the hospitals, managed by regional hospital boards; primary care, as provided by GPs and dentists, who retained considerable independence in the management of their practices; and the auxiliary services, such as ambulances, maternal and infant welfare, and home helps, which were left in the hands of local authorities.

One innovation in the NHS Act was the proposal for health centres. These would be places where several doctors would practise together, along with other health professionals including nurses and pharmacists. In the early stages of planning, the pharmacists' major concern was the extent to which the proposed new health centres would employ salaried pharmacists, and hence compete with private chemist contractors. Early planning documents referred to patients being able to 'obtain their supplies on the prescription of their doctor, either from shops OR other premises of a pharmacist, or from any health centre where dispensing services are provided'.

The Pharmaceutical Society and the National Pharmaceutical Union, representing the independent proprietors, were assured by the government that health centres would be limited to a few carefully controlled experiments, and that the question of including pharmaceutical services in them would only arise on new housing estates. Since there were more than enough chemists shops to go round, pharmacy services did not figure prominently in early health centre planning. In the event the policy faltered and failed, and by 1963 there were only eighteen purpose-built health centres in England and Wales.

For most chemist contractors the new NHS was simply an enlarged National Insurance Scheme. It was finally implemented on 5 July 1948. Negotiations on the terms of remuneration for chemist contractors ran to the very last minute. For England and Wales they were completed on 18 June, and in Scotland not until 1 July. It was largely an updated version of the NHI scale. The chemist was paid for each prescription dispensed. Payment was made in accordance with a Drug Tariff.

Their were four elements to the chemists' remuneration. The chemist received the wholesale cost of the appliance or ingredients; an on-cost allowance of 33.3 per cent, to cover all overhead expenses; an average dispensing fee of one shilling [5p], with higher rates for special services; and a container allowance of two and a

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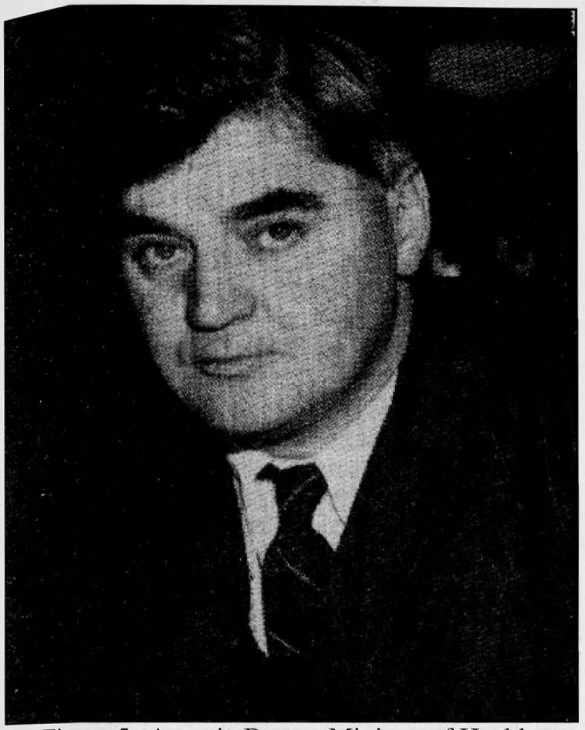

Figure 5. Aneurin Bevan, Minister of Health

half pence [1p] per prescription. The last was a new payment compensating the chemist for supplying a container for the medicine. Under the NHI patients had either brought in their own container, or had paid a deposit. By 1948 some 16,800 chemists in Britain had contracted to supply medicines and appliances under the National Health Service.

The impact of the NHS on community pharmacy

The impact of implementation of the NHS on community pharmacists was dramatic and immediate. Large numbers of prescriptions written by doctors were presented at pharmacies. Within a year the numbers had almost quadrupled, from around 70 million a year to around to over 250 million. The reasons for this were multiple. Firstly, with the inclusion of the entire population in the service the numbers visiting doctors more than doubled.

But there were other factors too. Since the service was free to all, and there was no charge for medicines, there was little incentive for those who could afford to do so to continue to see doctors privately and to pay further for their medicines. Those pharmacists who had substantial business in the dispensing of private prescriptions before the NHS found that this business greatly diminished afterwards.

And then there were the domestic remedies and patent medicines. With free medicines for all there was little point in poor people buying a few pennies worth of ingredients to make their own remedies at home. Likewise, their was little incentive to purchase proprietary medicines for the treatment of minor complaints like coughs and indigestion, and sales of these dropped significantly after introduction of the NHS. The same was true of the nostrums made up specially by the chemist.

The chemists welcomed these changes with open arms. The new prescriptions produced a substantial increase in turnover for most pharmacies. The terms of remuneration were by modern standards extremely generous, and many pharmacists became very prosperous as a result. But it was the pharmacy profession's response to these changed circumstances which were to shape the relationship between it and the state for the rest of the century.

Figure 6. R.J. Mellowes pharmacy, Enfield, 1959
Courtesy of the Museum of the Royal Pharmaceutical Society

The extra workload needed to be accommodated. Many pharmacists took the opportunity to expand the dispensary, usually at the back of the shop, at the expense of general shop space nearer the front. In 1948 a high proportion of prescriptions were still prepared extemporaneously one at a time, and most were in the form of mixtures or syrups. For most pharmacists this was an opportunity to practise the skills which they had learned in their apprenticeship, and they were usually more than happy to

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spend their working days preparing prescriptions in the dispensary at the back of the shop.

Very few took the opportunity to train dispensing assistants to help them with this work. Some took on apprentices for the first time, and a new generation of pharmacists were brought up believing that the role of the community pharmacist was the dispensing of prescriptions out of sight at the back of the shop. Increasingly the pharmacist only emerged from the dispensary when a customer asked to 'see the chemist'.

The new arrangements took some time to settle down. As in 1913 there were problems with the system for pricing prescriptions. The pricing bureaux were understaffed and completely unable to cope with the enormous increase in workload. A full pricing policy was abandoned, and a sampling system instituted. It was not until 1954 that all the arrears were cleared. Evidence of profligate and over-prescribing was widespread, with stories of large quantities of cotton wool being prescribed to help families keep warm, and large volumes of tonics and foodstuffs also being prescribed. A prescription charge of one shilling [5p] per prescription was introduced in 1951, and this rose to one shilling per item a year later.

The sale of proprietary medicines was to pick up again in the early 1950s. Three factors contributed to this. Firstly, the introduction of prescription charges meant that it might again be cheaper to buy something yourself. Secondly, the arrival of television advertising brought powerful messages about proprietary medicines into the homes of many. And increasing prosperity meant that increasing numbers of people were able to resort to branded products for a wide range of conditions from headache to hangover.

For community pharmacy in Britain the contingency arrangements made in the wake of introduction of the national health service became normalised. Pharmacists continued to dispense prescriptions at the back of the shop, pre-registration pharmacy students continued to spend much of their time dispensing, and few dispensing assistants were trained. The Council of the Pharmaceutical Society devoted its energies to reforming pharmacy education, to converting it from an apprenticeship-based occupation to a degree-entry profession. In this it was successful. Pharmacy became degree entry only in 1967, and this became a pre-requisite for admission to the register in 1970.

During the 1950s and 1960s the community pharmacist had all but 'disappeared' from the public awareness. Public esteem for the chemist was at an all time low. The issue was brought to a head at the British Pharmaceutical Conference in 1981. In what has become a very famous address the then Minister of Health, Dr Gerard Vaughan, announced to the conference that 'one knew there was a future for hospital pharmacists, one knew there was a future for industrial pharmacists, but one was not sure that one knew the future for the general practice pharmacist'. The pharmacy profession had made two serious mistakes: it had failed to monitor and recognise the impact of changes in its practice, and particularly its impact on the public; and it had failed to convince the government of its continuing relevance and contribution to the health of the nation.

The minister's statement was a watershed in the history of pharmacy in the twentieth century in Great Britain. It led directly to the 'Ask your pharmacist' campaign from the National Pharmaceutical Association, which first appeared in women's magazines in 1982. Discussions between the pharmacy profession and the government led to agreement that there should be an independent committee of enquiry set up *'to consider the present and future structure of the practice of pharmacy in its several branches, and its potential contribution to health care, and to review the education and training of pharmacists accordingly'*. This culminated in the publication of the Nuffield Report on Pharmacy in 1986. Developments since then have been aimed at extending the range of services provided by the community pharmacist to areas beyond the traditional dispensing role. These so-called extended roles can be seen as a return to the 'traditional' role of the community pharmacist before the introduction of the welfare state, and an attempt to draw the pharmacist out of the dispensary and back in contact with the public.

Conclusions: Health professions and the state

This paper has demonstrated that the relationship between the profession of pharmacy and the government during the development of the welfare state has been a dynamic and complex one. Pharmacy has not simply been a passive participant in a major reform. It has been actively engaged at each stage, it has bargained hard with government, and the shape of the welfare state that we have today has been strongly influenced by the position taken by the pharmacy profession.

But the introduction of the welfare state has had a dramatic impact on the nature and practice of pharmacy in the community in Great Britain. It has defined the principle tasks undertaken by pharmacists, influenced their education and training, and set their level of prosperity. Yet despite the changes which have taken place there have also been elements of continuity. Throughout, pharmacists have offered ready access without appointment throughout the community, they have offered advice without charge, and they have been available during normal shop hours, and usually beyond.

Yet arrival of the welfare state highlighted the major tension which has always existed in community pharmacy, the tension between pharmacy as profession and pharmacy as business. The history of the relationship between the pharmacy profession and the state in Great Britain with regard to the development of the welfare state demonstrates that where there is conflict business factors will usually prevail. Yet pharmacy was not alone in this. Aneurin Bevin famously claimed that he had to 'stuff their mouths with gold' in order to obtain the cooperation of the doctors for working in the National Health Service.

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It would nevertheless be untrue to suggest that all the changes to the practice of community pharmacy in Great Britain during the twentieth century are down to the welfare state. There were of course many other factors playing a part. These included the therapeutic revolution of the 1950s and 1960s which not only transformed doctors' ability to offer effective medicines for a wide range of conditions, but transformed the kind of preparation pharmacists were called upon to dispense. From the 1950s onwards the number of tablet and capsule forms increased dramatically, and the number of mixtures to be made up individually decreased.

More recent developments have included the de-regulation of a large number of medicines, so that they are no longer available only on the prescription of a doctor but can be sold on the authority of the pharmacist. We now also have the first moves rewards pharmacists having prescribing rights of their own. And use of pharmacies as a first port of call means that pharmacists are increasingly taking on roles which were clearly the responsibility of doctors in the early days of the welfare state.

The interaction between the state and the health professions is thus complex and dynamic. Both the profession and the welfare state are constantly evolving, responding to the wide range of social, political, economic and technological factors in which they operate. The balance between centralisation and decentralisation, between regulation and deregulation, and between public and private provision of services are issues at the centre of political debate, and the tensions between health care systems and heath professionals will keep historians busy for many years to come.

This paper is a fuller version of the address given to the International Academy for the History of Pharmacy at Edinburgh, June 2005.

Stuart Anderson was president, British Society for the History of Pharmacy and is vice-president of the International Academy for the History of Pharmacy
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Bibliography

Anderson SC. The historical context of pharmacy. In *Pharmacy Practice*. Taylor K and Harding G (eds). London: Taylor and Francis, 2001; 3-30.

Anderson SC. Community Pharmacy in Great Britain: Mediation at the Boundary Between Professional and Lay Care 1920 to 1995. In *Biographies of Remedies: Drugs, Medicines and Contraceptives in Dutch and Anglo-American Healing Cultures*. Gijswijt-Hofstra M, Van Heteren GM and Tansey EM (eds). Amsterdam: Rodopi, 2002; 75-97.

Anderson SC and Berridge VS. The Role of the Community Pharmacist in Health and Welfare 1911 to 1986. In *Oral History, Health and Welfare*. Bornat J, Perks RB, Thompson P and Walmsley J (eds). London: Routledge, 2000; 48-74.

Anderson-Stewart J. Jubilee of the National Insurance Act. *Pharmaceutical Journal* 1962; 189: 33-35.

Bevan A. Aneurin Bevan on the National Health Service. In *Aneurin Bevan on the National Health Service*. Webster C (ed.). Oxford: Wellcome Unit for the History of Medicine, 1999.

Department of Health and Royal Pharmaceutical Society of Great Britain. *Pharmaceutical Care: the Future for Community Pharmacy*. London: Royal Pharmaceutical Society of Great Britain, 1992.

Hardy A. *Health and Medicine in Britain since 1860*. Basingstoke, Hants: Palgrave,2001.

Holloway SWF. *Royal Pharmaceutical Society of Great Britain 1841-1991: A Political and Social History*. London: Pharmaceutical Press, 1991.

Homan PG. The Development of Community Pharmacy. In *Making Medicines: A Brief History of Pharmacy and Pharmaceuticals*. Anderson S (ed.). London: The Pharmaceutical Press, 2005; 115-134.

Honigsbaum F. *Health Happiness and Security: The Creation of the National Health Service*. London: Routledge, 1989.

Hunt JA and Jones IF. David Lloyd George: His influence on pharmacy in Britain. *Pharmaceutical Journal* 1994; 253: 912-13.

Hunt J A and Jones I F. Sir William Glyn-Jones: A pharmaceutical colossus. *Pharmaceutical Journal*, 1995; 255: 884-887.

National Insurance Dispensing. [editorial]. *Pharmaceutical Journal*, 1913; 90: 90.

Nuffield Committee of Inquiry into Pharmacy. *Pharmacy: A Report to the Nuffield Foundation*. London: Nuffield Foundation, 1986.

Pater J. *The Making of the National Health Service*. Oxford University Press, 1981.

Rivet G. From Cradle to Grave: Fifty Years of the National Health Service. London: Kings Fund, 1998.

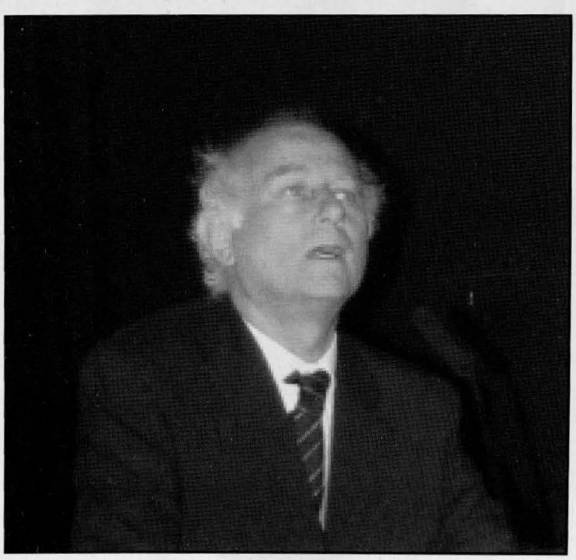
Ross JS. *The National Health Service in Great Britain*. Oxford: Oxford University Press, 1952.

Timmins N. *The Five Giants: A Biography of the Welfare State*. Oxford: Oxford University Press, 1995.

Webster C. *The Health Services Since the War, Volume 1, Problems of Care: the National Health Service Before 1957*. London: The Stationery Office, 1988.

Webster C. *The Health Services Since the War, Volume 2, Government and Healthcare: the British National Health Service 1958-1979*. London: The Stationery Office, 1996.

Webster C. *The National Health Service: A Political History*. Oxford: Oxford University Press, 1998.



Dr Stuart Anderson

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The Royal College of Surgeons of Edinburgh 1505-2005

Dr Helen Dingwall

Stirling

(Paper presented for Dr Dingwall by
Peter Jones MRPharmS)

The Royal College of Surgeons of Edinburgh celebrated its 500th anniversary on 1 July 2005, marking five centuries of evolution from small craft to major surgical college. In the early centuries especially, the College claimed historic rights to practise pharmacy, rights which were challenged by the physicians in the late seventeenth century, but restored by a patent granted by William and Mary in 1695. Indeed, one of the provisions of the original charter was that the incorporation of Surgeons had exclusive rights to brew aqua vite. The evolution of the modern profession of pharmacy has perhaps settled that particular dispute, but there were clear and strong links in the early days of the incorporation (see also Peter Worling p. S7-8). Unlike the situation in London, the apothecaries in Edinburgh did not have a strong organisation to protect their interests.

It has to be remembered that institutions were, and still are, very much of their time. They were shaped by external as well as internal factors, but importantly the influences and challenges were constantly changing, with the result that the survival of the College depended on its doing different things at different times, in reaction to external change and external influences and pressures – as well, of course as developments in surgery. It is also important to remember that members of any institution are also members of wider society and share contemporary beliefs and practices, so that the 'professional' actions of any individual are shaped not only by his or her institution and the specific body of knowledge related to it, but also by custom, habit and the contemporary context. For example, one of the most famous seventeenth-century Edinburgh physicians, Archibald Pitcairne – who defected from the physicians to the Surgeons around 1701, (RCPE founded 1681) — discussed physics with Isaac Newton, and debated the latest theories on the mechanical or chemical structure of the body. However, he still felt able to advise 'tying live doves to patients' feet'; he prescribed earthworm broth and prophylactic bloodletting; while Newton maintained his interest in alchemy. None of this was at all remarkable in its own context, in which religion, superstition and the supernatural were not at all at odds with new science.

Figure 1. Archibald Pitcairne (1652-1713)

With these factors in mind, this paper focuses on three elements of the development of the College – politics, training and examinations.

Politics

The Incorporation received its charter or *Seal of Cause* from Edinburgh Town Council on 1 July 1505 and it was ratified by James IV the following year. James IV was fortuitously keen on surgery himself. The Incorporation was founded, not because of advances in surgery but largely as a natural consequence of urbanisation, when occupational groups began to seek demarcation rights. Politically it was crucial to have Town Council support, and following the reorganisation of Scottish burgh government in 1583, the Incorporation (of Surgeons) was permanently represented on the Town Council. (another 5 seats were held in rotation. At this time surgeons had a much higher status in Scotland than in England. This political contact was crucial in the protracted conflicts with the physicians towards the end of the seventeenth century, particularly in the heated arguments about which body should have control of the apothecaries and the right to examine the contents of their shops. These contained a wide variety of ingredients, including castoreum, Peruvian bark, hellebore, senna and, of course, mercury and opium. Some concoctions contained dozens of ingredients, and the first few editions of the *Edinburgh Pharmacopoeia* (1699) contained many exotic substances. Most of medicines came from plants which had to be grown by those who prescribed them. Despite a growing desire to distance itself from the Town Council and be seen as a learned society, early survival of the College was much easier because of its close connection with local politics.

In terms of national politics, patronage in the earlier years came mainly from royalty and aristocracy. The Incorporation's charter was ratified by James IV; Mary, Queen of Scots, granted the surgeons exemption from bearing arms in 1567; the Incorporation's rights were

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re-confirmed in 1695 by William and Mary; and the first royal charter was granted by George III in 1778. In the 1670s the Incorporation began to award honorary freedoms to 'select persons of eminence power and place and of known good affection' – those who would be politically supportive to the surgeons. Some of the recipients may appear a little surprising, not least the notorious General William Augustus, Duke of Cumberland (1721-65) 'Butcher' Cumberland after the 1745 Jacobite uprising. ('Butcher' because of repression of the Highlanders after the battle of Culloden.) The College has, generally, been politically pragmatic over the years.

More recently, College politics have been concerned mainly with Parliament, Royal Commissions and enquiries of various sorts, and relationships with other medical Colleges. Since the watershed of the Medical Act of 1858, and much subsequent legislation, the College has been represented on most of the major governing bodies of the profession. The most recent incarnation is the Postgraduate Medical Education and Training Board. What the College has to deal with nowadays is not plague, overmighty physicians, kings or nobles, but acronyms. Now there is devolution and the role of the Scottish Parliament – a role which cannot yet be fully assessed, as well as the politics of the NHS and indeed the politics of the medical profession. At all stages, the ability to read the political scene and attempt to use it to advantage has been of crucial importance in the survival of the College.

Figure 2. James Borthwick (1616-1675)

The College and surgical training

The *Seal of Cause* states:

> for euery man aucht to knaw the nature and substance of euery thing that he werkis, or ellis he is negligent; and that we may have anis in the yeir any condampnit man efter he be deid to mak antomell off, quhairthraw we may haif experience, ilk ane to instrict vtheris, and we sall do suffrage for the soule; and that na barbour, maister nor seruand, within this burgh hantt vse nor exerce the craft of Surregenrie without he be expert and knaw perfytelie the thingis abouewritten

The *Seal of Cause* contained general instructions about the teaching of anatomy, particularly of the veins, and also the astrological signs – entirely in keeping with the context and view of body functions in an age of humoral medicine based on Hippocrates and Galen.

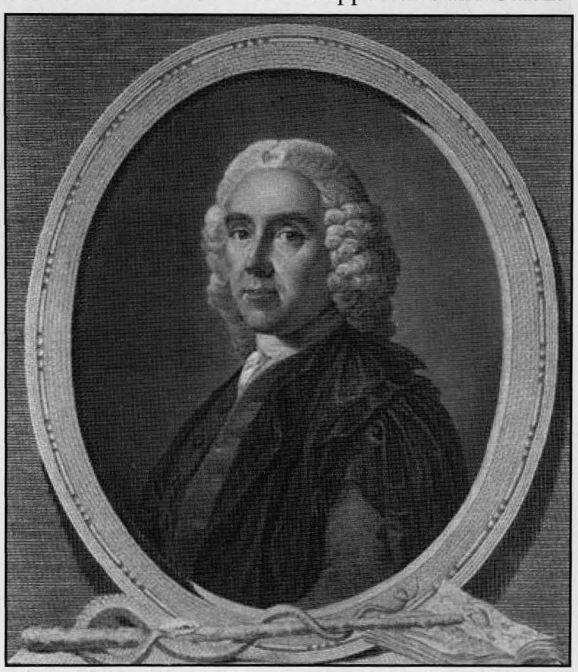

Figure 3. Alexander Monro primus

There was no mention of formal teaching of anatomy (in addition to instruction of individual apprentices by their masters) before 1645, when apothecary James Borthwick entered the Incorporation and offered to 'descect anatome for the fardir instruction of prentisses and servants'. It was not until the early 18th century that public dissections were held there. Interestingly, one body dissected was that of a man hanged for incest with his sister – she was also hanged for killing the baby produced by the relationship. At this time only the bodies of criminals could be dissected. The first professor of anatomy in Britain, Robert Elliot, was appointed by the Town Council in 1705, and eventually in 1720 Alexander Monro primus succeeded to the chair, the first of a succession of Monros who would dominate Edinburgh anatomical teaching for over a century. The Chair of Anatomy was passed from father to son for five generations.

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Figure 4. The Royal College of Surgeons of Edinburgh, Nicholson Street

For reasons which are still the subject of historiographical argument, the Medical School at Edinburgh University was founded in 1726, and from that point anatomy was inextricably bound up with university teaching. Surgical apprentices (undertaking a 7-year apprenticeship) began to take classes along with medical students. Subsequent controversies centred on whether the anatomy taught by the Monro dynasty was appropriate for surgery, and whether the professor of anatomy should also teach surgery.

After a bitter dispute with Edinburgh University the College appointed its own Professor of Surgery, John Thomson, in 1805. Ultimately a chair of surgery was established at the university in the early 1830s, and the College chair ended in 1839. So the College was closely involved through its individual Fellows, both in the University and in the flourishing, and in many ways more successful, extra-mural teaching scene. Some 'modernisation' of classroom teaching is suggested in the statement by John Chiene (pronounced Chain), who taught in the extra-mural schools. In his new lecture course in 1870 he 'introduced two things that I have never seen before in a lecture room – coloured chalks and a naked man'.

From the mid-eighteenth century clinical teaching at the Infirmary (late 1740s) brought more fights for demarcation and rights with the physicians and managers. The hospital setting increased greatly in importance from the mid-nineteenth century, when College Fellows (i.e. surgeons), now assisted by anaesthetics and antiseptics, were able to carry out more complex surgery. It was no longer necessary to amputate a leg in 30 seconds.

Lord Joseph Lister (1827-1912) (founder of antiseptic and aseptic surgery) and Sir James Young Simpson (1811-1870), whoin 1847 first used chloroform as an anaesthetic, were both members of the College.

The School of Medicine of the Royal Colleges of Edinburgh was founded in 1895 and its curriculum mirrored closely that of the University Medical School, but as the universities gradually became the single entry portal for basic medical qualification (confirmed by the Goodenough report of 1944), the teaching offered by the College was aimed increasingly towards higher surgical qualifications. Previously, there had been 22 ports of entry to medicines through the extra mural schools.

Nowadays there is a wide array of basic skills courses, surgical masterclasses, distance learning packages (for dental candidates as well), electronic media and training boxes for keyhole surgery. Medical informatics is taught in conjunction with the University of Bath, and courses are run in overseas centres. All of this means that the aims of the Seal of Cause in terms of good training are still at the forefront, but their manifestation is very different.

Examinations

The *Seal of Cause* states:

> Item, that na maner of persoun occupie nor vse ony poyntis of our saidis craftis of Surregenie or Barbour craft within this burgh bott gif he be first frieman and burges of the saymn, and that he be worthy and expert in all the poyntis belangand the saidis craftis diligentlie and avysitlie examinit and admittit be the maisters of the said craft for the honorabill seruying of oure Souerane Lord his lieges and nychtbouris of this burgh.

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Over the centuries, it has become increasingly necessary to give public proof of the rigour of examinations as well as the comprehensive nature of the curriculum. The early Incorporation apprentices underwent a general examination conducted by all of the resident masters before admission as a master surgeon and providing a dinner for the examiners. By 1647 the first set of more detailed regulations was laid out, the examination comprising three separate sessions. This is the examination taken by Alexander Monro primus in 1719. (It should be noted that the candidates were told the questions in advance!)

* 'chirurgery or anatomy in general',
* 'containing and contained parts of the thorax with circulation of the blood'
* 'fistulas in general with the operation of the fistula lachrimalis'
* bandages of the head and face'.

Stimulated by unwelcome suggestions from the physicians that they might 'assist' with teaching pharmacy, further modifications came in 1723 when botany, materia medica and *methodus componendi* were added to the syllabus.

Thus by 1731 Robert Smith was subjected to what seems a much more searching test of his knowledge:

* chirurgery and anatomy in general, with speech on contusions
* bones of the head and face with all its sinous (sinus) processes, pharamona and all its pertinents
* botany, materia medica, reading and explaining of receipts [prescriptions]
* unguentum tuliq, emplastrum epispasticum
* operation of the trepan with its proper apparel and bandages, and bandages of the head and face.

By the 1820s the Fellowship examination was reduced to two general sessions on anatomy and surgery, materia medica, and a third on the topic of the candidate's probationary essay, which was printed and circulated to the examiners in advance. Major changes did not take place again until after the Second World War, when a separate Part I was instituted in view of the rapid advances in basic sciences.

Parallel to the Fellowship, the College diploma or Licentiateship started off in a modest fashion in the 1770s and was standardised in 1815, when the various diplomas (including those for surgeons on naval and slave ships) were amalgamated into a single Licentiateship qualification. The diploma examination (which covered surgery, anatomy and pharmacy) proved to be of great financial benefit to the College and was very useful after the Medical Act, when the priority of the medical corporations was to withstand encroachment by the universities.

Following the Medical Act of 1858, a period of enforced co-operation broke out among the Scottish Colleges (the two Edinburgh Colleges and the Faculty of Physicians and Surgeons of Glasgow), and in 1859 the Double Qualification and in 1885 the Triple Qualifications (equivalent to the basic medical degree) were introduced, producing the ubiquitous general practitioners of the day.

Among the more famous licentiates was Elsie Inglis a founder of the Elsie Inglis Memorial Maternity Hospital (EIMH). Women were admitted to the Licentiate from the start, unlike the situation with the Fellowship examination. The Triple Qualification was still available as recently as the 1990s, and it is interesting to chart the changing nature of the candidates: from home and Empire at the start, to large groups of eastern Europeans with Jewish surnames in the 1930s, to, more recently, individuals from South Africa and elsewhere who were required to obtain a British qualification before being allowed to practise.

Modern College examinations include multiple choice questions (MCQs), orals, clinicals and log book surveys, and in future may well include practical tests on minimal access surgery and the use of virtual reality and electronic communication. In this aspect, the College has survived largely by a combination of reaction to external pressure and taking pioneering steps in anticipation of change, or because agreement could not be reached with other colleges on a combined approach. However, many of the core elements of the original 'body of knowledge' still appear in 21st century examination papers. For example, in 1719 George Denune's examination included 'amputation of the leg with proper apparel and bandages', while in July 1752 John Balfour gave a discourse on 'modern improvements upon amputated extremities'. In 2004 the multiple choice questions for the intercollegiate MRCS included:

> Complications of an above-knee amputation include:
>
> (a) Mental depression
> (b) Sudek's atrophy
> (c) Myoglobinuria
> (d) Neuroma formation
> (e) Amyloid deposition

Amputation is still, therefore, a major topic, but the questions reflect five centuries of progress in knowledge and practice.

Similarly, when examined in 1712, John Edgar was asked simply to discuss 'couching of cataract', whereas in 2001, candidates for the Fellowship in Ophthalmology were asked:

> In cataract surgery, what factors are important in deciding the post-operative refraction to aim for? Discuss the management of unexpected post-operative refractive results

Again, the aims were the same – to ensure that the candidate knew 'the substance of everything that he werkes'. The substance, though, was very different.

By the 1970s it was becoming clear that trends towards surgical specialisation required changes. It was realised that the value of the College Fellowship had diminished. In other countries the qualification was taken at the end of higher surgical training, whereas the Edinburgh Fellowship was taken at the end of basic surgical training. The first of the Specialty Fellowships were in Surgical Neurology and Orthopaedics, bringing these specialties into a new era of separation from general surgery.

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The main influences and pressures in recent times have related to the debate over the nature of surgical training itself, at what point the Fellowship should be awarded, and what it should signify – i.e. the end, or the end of the beginning. Various government enquiries and reports have sought to standardise and shorten surgical training and to restructure hospital posts in order to have a seamless progression through basic and higher surgical training. The new MRCS [Membership] marks the end of the beginning, and the specialty fellowship the beginning of the end, being taken shortly before the completion of higher surgical training and the award of the Certificate of Completion of Higher Surgical Training.

While the College led the way in the introduction of specialty examinations, and has pioneered examinations in new areas, including Medical Informatics, Sports Medicine and Immediate Medical Care, it is difficult to assess precisely how it all came about. The *Seal of Cause* is still relevant – but in the modern era 'diligently and avisitly examinit' means something very different. 'Everything that he werkes' is also changed beyond the imagination of the 16th-century surgeons.

How has the College managed to survive and, mostly, prosper for five hundred years? There are many factors, including some which it has not been possible to cover, including the drive and determination of individual Fellows to maintain the role and status of the College, particularly at times of threat. Do institutions such as this have a natural span of existence? The current President has stated that his vision is for a 'virtual college' for the whole of the UK with several 'campuses'. This may be difficult because most such institutions are jealous of their history, particularly if it has not always been easy or straightforward. They also have, and seem to wish to maintain, the visual symbolism of impressive buildings to confirm their status.

On occasions when it was threatened, the College used its long history to justify renewal or confirmation of its privileges. It was mostly able to deal with threats to its survival by a combination of reaction and pro-action, and of course individual contributions to advances in surgery and surgical techniques and knowledge, as well as political skills. Its ability to continue for another 500 years will require something perhaps very different but still within the spirit of the original charter.

Acknowledgements

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Reference

Dingwall H. *A Famous and Flourishing Society:The history of the Royal College of Surgeons of Edinburgh, 1505-2005*. Edinburgh: Edinburgh University Press, 2005.

Dr Helen Dingwall

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Samuel Hahnemann (1755-1843): The Founder of Modern Homeopathy

Dr Steven Kayne

Glasgow

This paper is about the life and times of Samuel Hahnemann, the 250th anniversary of whose birth we celebrate this year. It is appropriate that I should be addressing you at this meeting in Edinburgh for there are many events linking Hahnemann with Scotland. For a period of around 30 years the lives of Hahnemann and the Scots poet Robert Burns overlapped. Both men sought to challenge contemporary values and make peoples' lives more bearable: Burns fought social injustice and Hahnemann the medical practice of his day.

Some interesting things happened during this time:

1755 Capt Cook joined Royal Navy
1750-1785 American Revolutionary War
1772 Royal Marriage Act requiring the consent of the Sovereign before a member of the Royal Family could marry
1784 Benjamin Franklin invented bifocal glasses
1785 Digitalis first used for coronary disease; Blanchard & Jeffries cross Channel in air balloon; Louis XVI decrees all handkerchiefs must be square
1789-1798 French Revolution

Early years

Christian Friedrich Samuel Hahnemann, the founder of homeopathy, was born in Meissen, Saxony, close to midnight on 10 April 1755, in a three-storey house known as the Eckhaus. The city's imposing Albrechtsburg Castle, the first castle to be used as a royal residence in the German-speaking world was already 300 years old. Samuel's birthplace no longer stands, having been converted to a restaurant and finally taken down in the early 1900s. It was replaced by a property on the corner of Hahnemannplatz and Neumarkt, formerly a hotel, but in recent years occupied on the ground floor by a dental practice.

His parents were Christian Gottfried Hahnemann, a painter at the Meissen porcelain factory, and Johanna Christiane, the daughter of Quartermaster Captain and Mrs Speissen. To avoid confusion with the many other family members called Christian, the infant was known as Samuel. He was admitted to class two at the local school in July 1767. He took to studying enthusiastically, excelling particularly in languages.

His father attempted to divert Samuel's interests away from book learning and, shortly before his fifteenth birthday, the boy was sent to work in a grocery store in Leipzig to obtain the necessary experience to become a merchant This did not appeal, and it was not long before he returned home, where his mother hid him until the news could be broken gently to his father without fear of reprisals.

Eventually in the Spring of 1775 he left school and, with the equivalent of about 10 Euro from his father and a bag full of carefully folded cloth, he entered the most famous educational institute in Germany, the University of Leipzig, founded in 1409. Unfortunately there were no opportunities for clinical work at Leipzig, so in 1777 he moved on to Vienna.

Hahnemann's meagre funds soon ran out, and he was obliged to spend 21 months cataloguing books and coins for the Governor of Transylvania while he saved enough money to continue his studies. In 1779 Hahnemann entered the Frederick Alexander University Erlangen, where he finally obtained a degree in medicine in August of that year.

Dr Hahnemann worked in Dessau from 1791 where he met Johanna Leopoldine Henriette Küchler. Johanna was the 19-year-old daughter of the late Godfried Henry Küchler, an Apothecary, and his wife, Martha Sophia. Samuel and Johanna were married in 1702 at St John's Church, Dessau soon after he took up the post of Medical Officer of Health to a nearby towns hip at 'a fairly substantial salary'.

Doubts about medicine

Samuel spoke of renouncing the practice of medicine altogether, worried about the possibility of doing more harm than good with contemporary practices that included repeated venesection, purgatives and emetics and leeches, and the administration of large quantities of arsenic and mercury. He devoted himself to studying and translating books. He ultimately translated over 20 major medical and scientific texts. In 1785 Samuel and Johanna moved to Dresden where the first two of their 11 children were born.

At this time the great Scottish physician William Cullen (1710-1790) was influencing medical practice throughout Europe. He was the first Professor of Medicine at Glasgow University, subsequently moving to Edinburgh University in 1755. His procedures for treating disease, together with those of his pupil John Brown (1735-1788), were based on blood-letting, and the administration of antispasmodics and stimulants. Cullen's Materia Medica was first published in London in 1773, with a second two-volume edition appearing in 1789. In 1790 Hahnemann translated the text into German and annotated it. In this second edition Dr Cullen devoted 20 pages to Peruvian bark, also known as Cinchona after the Duchess of Cinchon, for whose benefit the medicine had been used. The drug was brought to Spain in 1640 by missionaries and has been used widely ever since for the treatment of a condition then known as the ague or marsh fever, but now called malaria. It was suggested by Cullen that Cinchona was effective because of its astringent properties.

During time cataloguing books and coins with the Governor of Transylvania Hahnemann had spent almost 2 years in the marshy lands of lower Hungary, where a substantial number of people suffered from marsh fever. He was thus able to acquire a thorough knowledge of the condition, so his interest in Cullen's statements was intense.

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Hahnemann knew of many other astringents that were not antimalarials and so he decided to test the drug on his own body, a practice that was not unusual in his time. He took substantial doses of the medicine, carefully noting down all the physical and mental symptoms that occurred. Hahnemann found that the toxicity reflected in the drug picture of Cinchona (now more usually known as quinine) mirrored closely the symptoms that could be found in a person suffering from marsh fever.

The 'Law of Cure'

Through his discovery of the power of Cinchona bark to produce the symptoms of disease, as well as an apparent ability to cure that disease, Hahnemann had caught sight, albeit briefly, of what can be described as a 'law of cure'. To him the observations on Cinchona matched Archimedes' bath water and Newton's falling apple for importance.

Similar phenomena had been noticed by at least two other workers. Hippocrates in his 4th cent BC writings recommended treating vomiting with emetics. Almost 300 years before Hahnemann's observations, Paracelsus had declared that if given in small doses, 'what makes a man ill also cures him'. Paracelsus was the adopted name of Philippus Aureoles Theophrastus Bombastus von Hohenheim, an itinerant physician and alchemist born in Switzerland in 1493. He was reputed to have cured many persons of the plague in the summer of 1534, by administering orally a pill made of bread containing a minute amount of the patient's excreta he had removed on a needle point. When asked by his followers, Hahnemann is said to have refuted any connection with this earlier work, but with the extensive study of the medical literature he carried out it is inconceivable that he was unaware of the work of Paracelsus.

Hahnemann tried a number of active substances singly on himself, his family and on healthy volunteers to obtain evidence to substantiate his findings. In each case he found that the remedies brought on the symptoms of diseases for which they were being used as a treatment He called the systematic procedure of testing substances on healthy human beings in order to elucidate the symptoms reflecting the use of the medicine - a proving from the German 'Prüfung', meaning a test or trial.

For the next 6 years Hahnemann tested the hypothesis gained through the experimentation with Cinchona until he was satisfied that he had identified a reliable method of selecting medicines based on the concept of like to treat like, expressed as the Law of Similars.

Hahnemann corresponded with his friend C.W. Hufeland expressing his feelings regarding the uncertainty of medical practice. In 1795 Hufeland, the professor of physics at Jena, began to publish a medical journal. In the second volumes parts three and four, Hahnemann published the article entitled 'Essay on a New Principle for Ascertaining the Curative Powers of Drugs', in which he outlined his ideas.

He reviewed the condition of medicine at that time and argued that

- chemistry was not the proper exponent of the curative action of drugs
- the experimentation on animals with poisons was of little use since many plants deadly to man are innocuous to animals
- the true method of experimentation with drugs is by testing them on the healthy body.

After this he was a frequent contributor until 1808, the last article being about a prophylactic for scarlet fever.

Let us remind ourselves of the principles of homeopathy. They are:

- Like to treat like - a drug that causes certain toxic signs and symptoms in a healthy volunteer can be used to treat those symptoms in an ill person
- Use of minimum dose - the smallest dose necessary to cause a therapeutic effect
- Use of single remedy whenever possible
- Treat the whole person - patients are treated holistically and not in isolation

Wine test

An example of Hahnemann's work away from medicine was a report on a new wine test that was subsequently adopted officially in Prussia. This test allowed the wine trade to identify wine adulterated by dealers anxious to sweeten it (a criminal offence). His work Poisoning by Arsenic was dedicated to 'Good Kaiser Joseph' and led to the development of a method for detecting arsenic in the stomach contents of poison victims.

The Organon

In 1805 Hahnemann published a very important book that comprised a 27-remedy materia medica and repertory. Written in Latin, this book was a forerunner of the *Organon of Rational Healing*, published in Dresden, by Arnold, in 1810.

This is considered the most important of all Hahnemann's books by the members of the Homeopathic profession, as in its pages he has fully explained his law of cure. It has been called the 'Bible of Homoeopathy'. The five editions of the Organon, that were published in Hahnemann's lifetime, differ somewhat from each other. A sixth edition on which Hahnemann was working at the time of his death was not published in German until 1921 and in English a year later.

Homeopathy – and Hahnemann – gained much popularity following the terrible winter of 1812 that took its toll of Napoleon's soldiers fighting in Russia. Following the 'Grande Armée's' defeat in a May battle in Leipzig in 1813, a fearful epidemic of typhoid broke out. Hahnemann treated 180 cases with homeopathy and lost only one patient. His fame spread rapidly

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throughout Europe.

In 1821 Hahnemann took up residence as Court Physician in a modest corner house in the small town of Köten situated at 270 (later 47) Mauerstrasse (Wall Street). The house was described in 1931 as being of two stories, quite picturesque with a wooden balcony and situated close to the City wall. In 1991 the area was in disrepair and all that could be seen was a sign showing where the wall stood. The house was subsequently restored in the late 1990s and served for a time as a Homeopathic Resource Centre.

The cholera epidemic

In 1831-1832 an epidemic of cholera spread across Europe, causing many deaths. Hahnemann issued several pamphlets on the subject, advocating the use of the single medicine Camphor. As he had not treated, or even seen, one single cholera patient the depth of his belief in the efficacy of a single medicine was quite remarkable.

Hahnemann postulated that cholera could be attributed to an organism (or 'miasm') and that the disease could be propagated by personal contact. This led him to demand isolation and disinfection — and also to the suggestion that medical staff were the most likely source of infection. Following this success an increasing number of doctors from all over Germany and beyond came to seek advice.

Marriage to Melanie

Johanna Hahnemann died in 1830, having borne nine daughters and two sons, and although Samuel was well looked after by his family, he was rather lonely. In his eightieth year, a 34-year-old Parisienne requested a consultation. The woman was Melanie D'Hervilly-Gohier, the adopted daughter of the French Minister of Justice.

She succeeded in fascinating Hahnemann by her intelligence, her unusual degree of culture and her natural grace, much to the chagrin of has daughters. Despite Melanie being less than half his age, Samuel Hahnemann married her on 28 January 1835, in a union said to be based on an enthusiasm for the new form of healing. The newly-weds moved from Köten to Paris where Melanie secured permission for her husband to practise in the city through her influence with King Louis Philippe.

Figure 1. A case of Hahnemann's remedies.

Now that he was living in a major metropolis the old doctor, who had only recently before announced his wish to retire from practice, was far more accessible. He became surrounded by adoring clientele, not just from his adopted homeland, but from abroad as well.

There is a passing reference in the literature to the case of a poor lad of 12 years named John Young who was brought from Scotland by a wealthy benefactor. The boy had been ill for 2 years and his own doctors had abandoned hope. After an examination lasting an hour and a half, Hahnemann declared himself able to help and the boy subsequently recovered. Unfortunately the literature does not record exactly what was wrong with John.

The Faculty of Homeopathy is the UK body set up in 1951 by an Act of Parliament for health professionals who practise homeopathy. It possesses a number of interesting pieces of Hahnemannian memorabilia at their Hahnemann House Headquarters in Luton, including

- a case of his remedies (Figure 1)
- two of his caps (Figure 2)
- pipes, and a desk
- and an original photograph of Samuel Hahnemann taken 30th September 1841 by H Foucault of Paris (Figure 3). The photograph was originally the property of the Revd T Everest who recorded:

> It was a dark rainy day, with violent gusts of wind, all which circumstances by increasing the difficulty of taking the photograph, have given the countenance of Hahnemann an air of stiffness. Hahnemann was, moreover, rather unwell that day

The final years

On his eighty-sixth birthday the town council of Meissen conferred the freedom of the city on Hahnemann, a gesture that he appreciated very much. A couple of days after his eighty-eighth birthday, on which Hahnemann was in great health and spirit, he

Figure 2. Two silk and velvet caps belonging to Hahnemann (Faculty of Homeopathy collection)

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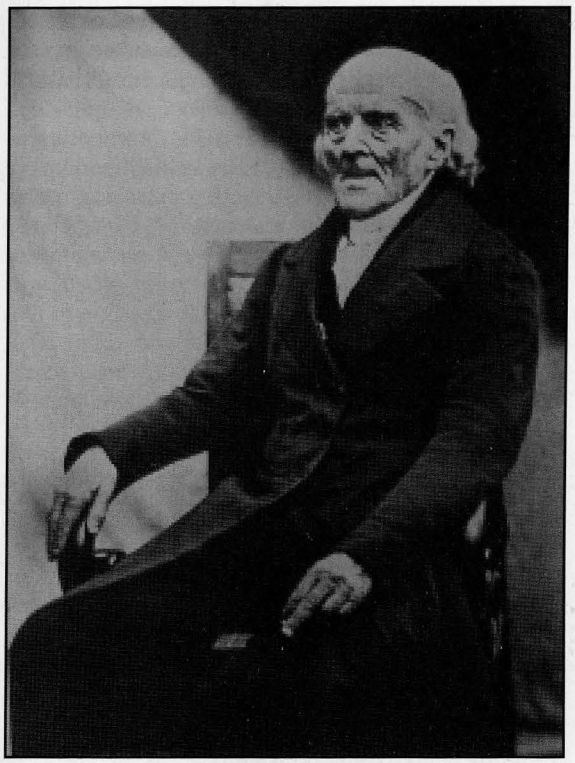

Figure 3. Samuel Hahnemann
(Faculty of Homeopathy collection)

became affected with bronchial catarrh, a condition to which he had been prone every spring for about 20 years. This time the illness was more protracted, lasting for 10 weeks. Hahnemann prescribed for himself, but seemed to know that the end was drawing close. At 5.00 a.m. on July 2, 1843, Hahnemann died. An obituary appeared in the homeopathic press a week later. On his death certificate the cause was stated as 'bronchial catarrh'.

Melanie Hahnemann had her husband embalmed, and requested police permission to keep it unburied for 28 days. She spent much of the time before the secret funeral in the early hours of July 11 weeping beside the body.

Hahnemann's second daughter, Amalie, her son Leopold and three servants were the only mourners present. Leopold said later that Melanie berated the bearers for scraping the walls of the hallway as his grandfather's coffin was being carried out the house, not out of respect for her husband but on account of the expense of repairing the wall.

Leopold was practising homeopathy in London in 1895 and died on the Isle of Wight aged 85. Melanie practised homeopathy after Hahnemann's death She died in Paris, on the 27th of May 1878 aged 78. In 1898 the Authorities in Paris sanctioned an exhumation from the Montmartre grave where Hahnemann was initially buried. He was finally laid to rest in the beautiful Père Lachaise cemetery close to the graves of Rossini, Molière and Gay-Lussac.

The ceremony was attended by representatives of the medical profession from all over Europe. In 1900 a monument of Scottish granite was erected and later the following inscription chosen by Hahnemann was added;

Non inutilis vixi — I have not lived in vain.

In the same year the US Congress approved the erection of an impressive memorial in Washington DC. It stands to the east of the Scott Circle, near the cross section of Massachusetts and Rhode Island Avenues. Unveiled the following June, the monument was the gift of the American Institute of Homeopathy.

Hahnemann's legacy

I think it is probably safe to say that with the possible exception of the dialogue over the Royal Pharmaceutical Society Charter no subject has filled the columns of the *Pharmaceutical Journal* more than homeopathy! Sceptics are still very active but the fact remains that patients do seem to respond to the treatment. We are not even close to understanding the mechanisms for homeopathy but this should not be an impediment to its use, for many orthodox therapies are used in an empiric manner.

It is interesting to note that the ideas of Hahnemann, in particular belief that one should tailor treatment to each patient's own requirement is now the main platform of policy for health care delivery in the UK.

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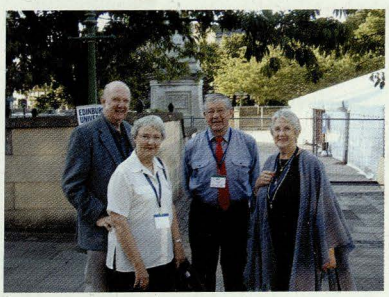
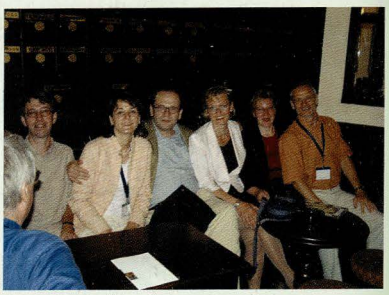
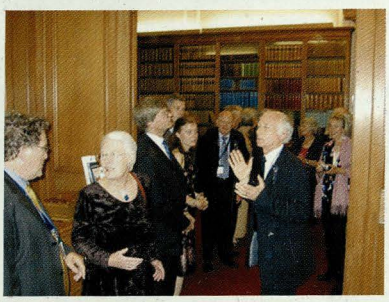
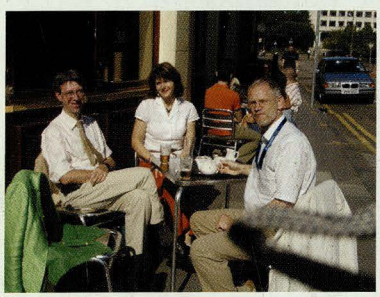
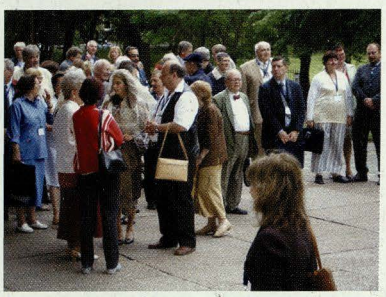
'People and Places': 37th International Congress for the History of Pharmacy

Edinburgh, June 2005: some of the participants



Committee of the International Society for the History of Pharmacy at the final session of the Congress

Photos courtesy of Christiane Staiger, John Stone, Ainley Wade

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38th International Congress for the History of Pharmacy

'Drugs and medicines from both sides of the Atlantic Ocean'

To be held in **Seville**, Spain from Wednesday 19 September to Saturday 22 September 2007 at the NH Central Convenciones Hotel. Organised by the Society of University Teachers of the History of Pharmacy in Spain. Further details from: Prof. Dr. Esteban Morena Toral, Historia de la Farmacia, Facultad de Farmacia, C/ P. garcia Gonzalez 2, 41012-Seville, Spain; email *toral@us.es* or fax +34 5954556726

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